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THE LEGEND OF KYRANDIA AWAITS YOU!

Eye of The Beholder I and II, Advanced Dangeons and Deagens are to FARLES AND FIRNDS and THE LEGEND OF KYRANDA are trade





TEE TIME

by Peter Scisco

What's new on the computer-golf scene? Recent releases and updated titles offer state-of-the-art graphics, tighter-than-ever control, sophisticated strategy, and that irresistible arcade challenge. PCGames profiles the hottest new foursome: Jack Nicklaus Golf & Course Design: Signature Edition, LINKS 386 Pro, Microsoft Golf, and PGA Tour for Windows.

COOL GAMES FOR THE DOG DAYS

by Ed Ferrell

They say there ain't no cure for the summertime blues, but they're wrong - just flip the switch and turn on your trusty PC. Quick to learn and quick to finish, Paperboy II, Pinball, Rampart, and Super Tetri for Windows play fast and furious and get you back outside before you can even say "sunblock."

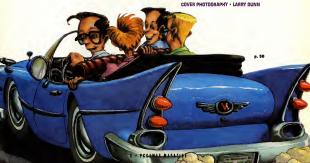
TAKE 2: PLAY IT AGAIN . . .

by Gregg Keizer

We're swimming in series and sequels — but when game players latch onto something, game publishers are loath to let go. Sales figures talk, and developers listen.

56 THE ART OF FUN

by Heidi E.H. Aycock Remember how it felt to draw the ideal race car or beat out your first real drum roll? Recapture that experience today - right on your home computer. PCGames takes a look at the latest in creativity programs for kids land the young at heart): KidPix, Windows Draw, Computer Quest, and NotePlay. (Continued on page 4)



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EDITORS' CHOICE "Zen Moments" by Cynthia E. Field











· PCEA

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SSI's latest role-playing adventure boasts stunning digitized art and animation, a dynamite soundtrack and colorful sound effects. It's fast and easy to play, thanks to point-and-click icon-based commands, graphical inventories and conversation interface. As you search for the way to prevent an ancient prophecy from coming true, you'll cast magic spells, solve puzzles, explore dark

dungeons, battle monsters and encounter the

long-dead. All of which you'll find quite uplifting







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IBM AMIGA

STRATEGIC SIMULATIONS, INC.

EDITOR'S PAGE

RECIPE FOR SUCCESS

emember that commercial in which a peanut-butter lover bumps into a chocolate junkie? Somehow the peanut-butter and chocolate get mixed together; synergy follows and Reese's Peanut Butter Cups becomes a legend.

For years educational-software publishers and entertainmentsoftware companies traveled down the road the way the couple in the Reses's commercial does — with their heads down and mids closed. Entertainment companies grimaced at the word "education." Education companies resisted the word "game" as a warfel table. Sure, a spelling or math program might have a game element here and there, but there was software for learning and software for playing.

I didn't actually see it happen, but somewhere along the line, education and entertainment collided and everything got mixed.
"You got entertainment in my education software," cried one faction. "No, you got education in my entertainment software," the other protested. They sold it anyway, and the result was a combination almost as anoneline as chorolate and neam thatter.

The new recipe secints to be working. At this summer's Consumer Electronics Show in Chicago — historically an event for the entertainment market — we saw companies that used to be categorized as education publishers getting more serious about games. Companies such as Davidson & Associates, The Learning Company, MECC, and Broderbund will probably never offer a fantasy role-playing game or a flight simulator, but they'te taking games seriously. Their games are aimed at kids, but they to taking games seriously. Their games are aimed at kids, but the twe supposals is that kids well learn if they "to shaving fin.

To give credit when it's due, Brothemat was probably the first company to come up with a product that defied categorization. The Carmer Sandego utiles are games to some and education tools to others. But it doesn't matter what you call them: Kirk love them and will play them, and learn from them, for how. Carmen continues to travel to far-off places, and the games continue to sell off the shelves. Carmen even has been own IV program now.

Today, Broderbund's competitors offer products that are as fim and educational as Carmen. Davidson's Headline Harry and The Learning Company's Super Solvers series come to mind as worthy competitors, but there are many more. And Carmen is no slouch herself. As technology improves, so does Carmen.

On the chocolate side, role-playing games and sports and flight simulations still abound, but publishers are also seeing the education potential of entertainment. For example, companies with pure-entertainment pedigrees such as Konami (in conjunction with Spirit of Discovery) and Accolade now offer products that fall into the "edutainment" category.

Just as chocolate and peanut butter taste great together, software publishers realize that there doesn't have to be a wall between fun and learning. Now if we can only think of a better buzzword than edulamment....

— Dan Muse, Editor in Chief



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PCGames (ISSN 1042-2943) is a buyer's guide to MS-DOS entertainment software, published eight times each year by A+ Publishing, a subsidiary of Macworld Communications, 80 Em Street, Peterborough, Nt 0.3458. Subscription phone (800) 343-34728. Nationally distributed by Abain News. Second-class postage pending at Peterborough, New Hampshire, and additional malling offices. POSTMASTER: Send address changes to Classification and produced services and to Second Communication of the Communication of Second Second

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Rex Nebular is on his way!



MAILBAG

Braft Picks

I have a question for you gaming pros. What's the best PC football game on the market right now? I'm looking for great graphics, arcade action, and good sound effects, without losing playability. A variety of plays to choose from, along with all the technical stuff such as weather, injuries, penalities, substitutions, fatigue, hurry-up offense, choice of sadum, two-minute drill, and a wide range of adjustable player attributes, would also be pluses.

A coaching perspective would be nice, but I like to get into the action and run the quarterback around the end and hand off to a wide receiver running a reverse. Being able to control the guys on the field is the most important thing for me.

Matt Bailey 6504 114th Avenue Northeast Kirkland, WA 98033

You'll find three of the newest football games on the marbet profiled in this issue of PCGames: NFL Pro League Football and All-American College Football Witner Sports, Hiscon. TN/615-884-3040, 879-95 and \$59.95 respectively) on p. 68, and NFL (Konami, Buffalo Grove, III/708-215-5111, \$49.95) on p. 85.

According to our reviewer, NFL Pro League and All-American College Football emphasize statistics (140 categories), highlighted by coaching and game-plan formulation. Craphics and action are no great studes — just the basics. Konami's NFL, on the other hand, has great graphics images. Ther's also a coachingonly mode and a playbook elding.

In our November 1991 issue (p. 43), our reviewer called Mike Ditka Ultimate Football (Accolade, San Jose, CA/408-985-1700, \$54.95) "the perfect blend of strategy and action for the armchair quarterback," with detailed graphics and a choice between predefined teams and control of individual player attributes.

control of individual player attributes.
Also reviewed in that issue is Plenymaher
Football, a package from Brodernot Software (Novant, CA/800-521-bac),
\$49.95), a coaching simulation "for the brain, not the fingers." Although graphics images and animation are somewhat awkward-looking, the game's strategic details and low-level artificial intelligence make it notworthy.

Also worth checking out at your local software store at John Maddler plan Handler ball II, due out in September from Elsertronic Arts (San Matoo, CA/415-717, 17, 18, 19, 19) and Joe Montann Football, from Sega (Redwood City, CA/415-508-2800), According to this issue's Game Perserve (p. 11, 18). Madden II features excellent animation and new playbooks. The Joe Montana package now includes a new disk containing six extra playbooks.

In addition, Data East offers ABC Monday Night Football (Son Monday) Night Football (Son Monday) Night Football (Son 1965, CA4608-206-7074, \$499 5), reviewed robe in '18 Endisc Season,' Spetured roles of the Son Monday of the So

Also on the market is MicroLeague Football: The Coach's Challenge, from MicroLeague Sports (Newark, DE/302-368-9990), mentioned in The Game Preserve, November 1991, p. 4. Dehaxe Version (\$69.95) includes General Manager(Owner and MicroLeague Season disks with current and past team rosters and state — eds. — eds.

Fed Up

I'm an avid computer-game player, and I've always admired computer games for being one step ahead of game systems. But game designers are still living in the past about one thing; copy protection. They're still using it — more than ever, in fact. And the new protection schemes are enough to drive a person to drink.

Copy protection has never stopped a determined pirate or hacker. The only thing copy protection accomplishes is hurting honest users. Who wants to have to look up a word in the game manual or mess with a key disk every time you want to play a favorite same?

A minor inconvenience, some might saxy but think about it. Imagine, as say, but think about it. Imagine, as say, but think about it. Imagine, as sockool one aftermoon, ready to school one aftermoon, ready to school one aftermoon, ready to use a round of Final Orbit. Nou're about to turn on the computer — when use no use as your baby or your kid brother seiting on the floor ripping out of the pages of the manual. Or maybe the dog's bitting the key disk from your king's Quest package. No manual, no earne, No disk, no earne.

Pretty bleak, isn't it? If any of you game players out there are as fed up with this as I am, don't hesitate to speak out. Maybe one day someone will hear you.

Jake Landrum P.O. Box 499 Pittsburg, TX 75686

If you have comments, questions, or suggestions, write and let us know what you're thinking. We reserve the right to edit letters for clarity, style, and space. Address your correspondence to Mailbag, <u>PCGames</u>, 80 Elm Street, Peterborough, NH 03458.



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- 11 ROULET . SLOTS . CRAPS . KENO . BLACKJACK MENSA * PUZZLES • GAMBLING WORDSEARCH
- 12 BEST OF THE 80'S . SPADES . S.O.S.-a word game • MICROPUTT - miniature golf • BINDOG • CONQUER (Othello) • WORDSEARCH

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THE GAME PRESERVE

NEW FRONTIERS

Big news from Strategic Simulations (Sunnyvale, CA): The company is launching two games with new 16-bit engines - the first since Pool of Radiance's and the Gold Box series' 8-bit engines --- plus a naval-battle game unlike any of its other historicalwarfare products.

Dark Sun: Shattered Lands jumps straight from the best-selling Advanced Dungeons & Dragons fantasy role-playing board game from TSR into your home PC. The Sorcerer King rules a harsh desert universe.

Your job is to build up and lead a four-character party as you escape from the city, organize other escaped slaves, and fight the Sorcerer King's army. With 200 spells at your command, including new psionic powers and mental telepathy, you'll visit 20 regions.

Game action features real-time play as well as SSI's dependable phasecombat system. Handrendered graphics make this one a knockout. A compact-disc version is in the works for '93.

M is SSI's foray into outof-this-world science-fiction role play. You'll direct an undercover team traveling to the planet Monsoon to



free kidnapped diplomats. This land's life-supporting surfaces are a series of raised plateaus surrounded by poisonous clouds.

M features stunning graphics images (all CADrendered), with cinematic drama and weird scaling effects. You control your four characters and a robot via a point-and-click interface and a full-screen overhead view

Great Naval Battles: North Atlantic 1939-1943 puts either the British or the German North Atlantic fleet at your command during World War H. You can play a tactical naval campaign or engage in ship-toship battles. You'll go on maneuvers.

choose batteries, and manage damage control - and you may even have to issue the command to abandon

Historical accuracy is a highlight: All battles and situations are based on actual encounters and convoy shipping dates, and you'll be fighting computer counterparts of real ships piloted by their actual commanders.

For more information. call SSI at (408) 737-6800. — W.N.

ON-LINE SAVINGS

The Sierra Network, an on-line service for PC game enthusiasts, recently announced a new flat-rate subscription.

For \$12.95, subscribers can play TSN's Constant Companion board and card games, featuring chess, checkers, bridge, cribbage, and more (played with real people in real time), for up to 30 evening and weekend hours. Options for play time of more than 30 hours per month are also available

For more information contact The Sierra Network (Coarsegold, CA) at (209) 649-0700 _ D M

EA'S GOOD SPORTS

Electronic Arts (San Mateo, CA) is ready for today's computer-sports nuts. The Olympic games are the hot sports news of the year, of course, and the athletes at EA are primed for action

Team U.S.A. Basketball features an international competition with America's NBA All-Star Olympic team. This game uses the same engine as Lakers vs. Celtics and, like that title, sports graphics images of real-life players. And if you pay attention to TV coverage of the Olympics, you'll notice that EA even copied the European players, too.

The NBA players' performances are based on their '90 -'91 statistics. That taste of realism also applies to players such as Vlade Divac of the Los Angeles Lakers and Sarunas Marcia ulionis of the Golden State Warriors, who play for other Olympic teams.

All players show their signature moves or dunks. too, Team U.S.A. also includes brief background information on all competing countries

Michael Jordan In-Flight deserves another mention in The Game Preserve This three-on-three basketball game is slated to appear in October, It mixes sports action with flight-simulator features - maybe the only way to simulate His Airness' awesome on-court moves. (For more on Iordan In-Flight from the viewpoint of the game's author, check out "New Perspectives," this month's Designers' Notes. p. 87.)

John Madden Football II should kick off this September. The game features enhancements all around the field. Graphics images now include great player animation — a welcome improvement over the original Madden Football's.

You'll also get new defensive and offensive playbooks from Coach Madden himself. You may find that the biggest boost of all. though, is in the quality of the computer competition.

For more information on the Electronic Arts Sports Network, call EA at (415) - W.N.

MAXIS GOES

The company that brought you SimCity, SimEarth, and SimAnt is about to expand its creative focus from land to sea. Maxis Software's (Orinda. CA) Elfish is the new brainchild of Alexey Pazhitnov and Vladimir Pokhilkko, designers of Tetris.

Preliminary reports note that as in Maxis' other life simulations, Elfish lets you play God and produce totally unique animal forms, this time of the aquatic variety.

The program contains detailed animated graphics images of hundreds of fish species. You'll mate different types of fish or make them evolve; you can populate your seas with existing species, or for faster breeding you can pick and choose anatomical parts to

build your own marine-life form. For details, contact Maxis at (415) 254-9700.

CHECK

PC chess packages just get better and better. Aficionados should be on the alert for two new games from Software Toolworks (Novato, CA) and Interplay (Santa Ana. CA).

In addition to a brandnew chess algorithm, Software Toolworks' Chessmaster 3000 features snazzier graphics images,

THE ENVELOPE, PLEASE . . .

he motion-picture industry has the Oscars: the music industry, the Grammies; the theatre bix, the Tonys, But what about honors in the software industry? It's got something, too. It's big, it's bad, it's black-tie. It's the annual Software Publishers Association Excellence in Softwere Awards, Okay, it needs a catchier name. (How shout the Kennies in honor of SPA director Ken Wasch? Nav.)

It may not roll off the tongue, but it's still a big

deal. Like other industry awards, it takes a peerselection approach. There's heavy lobbying, a lot of sentimental votes, but mostly good selections. This year the spectacular was held in Seattle last

March at the SPA's annual spring conference, Jon Lovitz of Saturday Night Live (yeah, that's the ticket) was master of ceremonies. Lovitz added the right amout of irreverence. Unlike some past hosts, he seems to have an understanding of the industry, or at least did a good job faking it. Some of his humor was slightly off-color, which received a mixed reaction among the 1000-plus attendees. (Rest assured

that PCGames was seen rolling on the floor - well, almost - during the most-prurient jokes.)

In the entertainment and "edutainment" categories the awards went as follows: · BEST NEW-PROGRAM USER INTERFACE for

the software program with the most intuitive, innovative way in which the user interacts with the computer: KIOPIX from Broderbund Software, author Craig Hickman

· BEST FANTASY ROLE-PLAYING/AOVENTURE PROGRAM for the best title that engages the user in a fantasy or role-playing environment: MARTIAN MEMORANOUM from Access Software · BEST SIMULATION for the best program that simulates a real or imaginary situation: SIMANT: THE ELECTRONIC ANT COLONY from Maxis Software, authors Will Wright and Justin

McCormick · BEST SPORTS PROGRAM for the best program that simulates sports: LINKS CHAMPIONSHIP COURSES

from Access Software · BEST HOME-LEARNING PROGRAM for the best educational program designed for learning at home, but not limited to a particular age group: WHERE IN AMERICA'S PAST IS CARMEN SAN-**DIEGO?** from Broderbund

Software BEST ACTION/ARCADE PROGRAM for the best new action/arcade program: LEMMINGS from Psygnosis Limited. authors OMA Design

 BEST STRATEGY PRO-GRAM for the best program that engages the

user in strategic interaction: SIO MEIER'S CIVILIZATION from Microprose Software . BEST ENTERTAINMENT PRODUCT for the best

e-entertainment program Itie): SID MEIER'S CIVILIZATION from Microprose Software and LEMMINGS from Psygnosis Limited, authors OMA Design - O.M.



tied with action/arcade title Lemmings (bottom) for SPA's best game product.





Chessmaster 3000: a stronger, better-looking opponent.

additional moves, stronger computer opponents, and more learning tools. The game follows U.S.

The game follows U.S. Chess Federation rules. You can replay and analyze 150 of the greatest games in chess history, and there's a special interface that lets you connect with on-line chess databases. You can also set up a round-robin tournament for up to ten players.

Chessmaster lets you pause in mid-game to explore as many alternative moves as you like without interrupting your original line of play. At the end of a game, the program determines your chess rating.

For more information, contact Software Toolworks at (415) 883-3000.

Interplay's Battle Chess 4000 also sports a new-and-improved algorithm — but it's the outstanding graphics images that add spice to this series. The latest entry sports pieces rendered in Claymation-style animation. For details, all (714) 545-9001. — W.N.

MECC On the move

MECC (Minneapolis, MN), a company that has years of experience and



Check out the cool-looking pieces in Battle Chess 4000.

success in education software, continues its push into more-mainstream markets with three products that feature fun, but also focus on learning.

focus on learning.

In Hero by Night
(\$49.95), you play the role
of an aspiring hero who
attempts to right wrongdoing in a crime-infested
city. Remember, though,
that you're new to this stuff;
in fact, it's your first night
as an avenger.

Armed only with your little brother's security blanket for a cape, mom's kitchen gloves, and a new pair of galoshes, you bravely set out to take on evil.

Your goal is to prevent Mr. Big from crippling your city, He's hired a team of thugs to execute his diabolical plan. You must decipher clues and stop each of the thugs individually to save your hometown. A variety of criminals and cases are designed to keep the pace moving.

the pace moving.
In SnapDragon (\$49.95),
children aged \$10.6 join a
camera-happy dragon and
his teddy bear to explore
the world of classification
and grouping. Kids can
visit six different locations
— ranging from the depths
of the sea to outer space —
where they'll play with the
objects they find there.

Öbjects can be sorted by size, shape, color, and more. After kids group items based on either objective or subjective criteria, they can ask Snap-Dragon to photograph the scene.

Pictures are stored in a photo album so that the child can go back and explain how he or she grouped the objects. The game also includes blackand-white pictures of Snap-Dragon that kids color either on or off screen.

In Storybook Weaver (\$49.95), children aged 6 to 12 create their own storybooks by incorporating a variety of words, pictures, sounds, and music. In the picture window, kids can select from 468 scenery combinations to use as backdrops.

They can also pick from

including people, story characters, real or makebelieve animals, and more — representing a variety of cultures. Objects can be enlarged, reduced, flipped, and colored. Kids can also

more than 650 objects -

enlarged, reduced, flipped, and colored. Kids can also assign one of 36 different sounds to each object and select from 12 musical tunes to set the mood of the story.

Storybook Weaver fea-

tures a story window with basic word-processing functions, such as cut and paste, and a selection of five forus. It also includes a spelling option that lets a child go beyond his or her written vocabulary. If a child selects an object in the picture window, the word that coincides with that object is inserted into the story. Kids have two ways to

share their stories with others. They can print in one of three formats or distribute them electronically via compatible computers. The reader doesn't need to run the Storybook Weaver application to view kids' masterpieces.

Hero by Night, Snap-Dragon, and Storybook Weaver all require a harddisk drive and support leading sound cards.



Zoo Keeper: so realistic you'll want to feed the animals.

For more information, contact MECC at (612) 569-1500. — D.M.

LIONS AND TIGERS

What provides a better combination of entertainment and education than a trip to the zoo? Davidson & Associates (Torrance, CA) lets kids take their love and curiosity about animals to another level with **Zoo Keeper** (\$59.95).

Zoo Keeper is designed for 6- to-11-year-olds and takes an entertaining approach to teaching them about animals, their environments, and the importance of saving endangered species.

To get and keep the attention of young gamers, Zoo Keeper even features photos and sounds from the wild culled from the television show Zoo Life with Jack Hanna and Zoo Life magazine.

The young player begins the game as a temporary zookeeper at Zoo World. The goal is to work up through the ranks to the job of head zookeeper. To reach this lofty position, the child must keep his or her animals happy and healthy. He or she must also release a variety of endangered species back to the wild.

At the center of the game is the zoo map, which consists of seven regions: deserts, forests and woodlands, grasslands, rainforests, mountains, polar regions, and oceans and rivers. Each region contains animals and environmental conditions indicative of that geographic area.

To investigate an animal, a world map shows where each animal is found in its native habitat throughout the world. Binoculars provide kids with a close-up digitized photo of each animal.

In an effort to save endangered species, Davidson & Associates will contribute \$1 to an animal foundation (unnamed at press time) for each Zoo Keeper registration card returned. So, remember, folks, get those cards in the mail.

For more information, contact Davidson & Associates at (310) 793-0600. — D.M.

KIDPIX DOES

Broderbund's (Novato, CA) award-winning KidPix is now available in a Windows version.

Among Kid Pix for Windows' (\$59.95) features are animated 3D buttons that remain depressed when clicked, helping kids remember which tool and color they're using.

The program also takes advantage of Windows' multimedia capabilities through its extensive use of sound. It supports any MPC-compatible sound card and Windows 3.0 with Multimedia Extensions or 3.1. Kids can add life to their creations by recording greetings, music, or sound effects. For more information.

contact Broderbund Software at (415) 382-4400. — D.M.

TO THE BAT CAVE Konami (Buffalo Grove,

It) has secured the software rights to the movie Batman Returns and plans to ship a computer game of the same name this fall.

You'll guide Batman through the dark and gloomy streets of Gotham City as he battles infiamous enemies such as the pesky Penguin and the curvacious Catwoman. You control Batman's Master Computer as it analyzes evidence, views news broadcasts, and investigates a biographical database of criminals.

Batman Returns, developed by Park Place Productions, features graphics designed to capture the dark mood of the movie.

In other game news, it

seems as though Konami must really love football. (Well, it is based in the Midwest.) On the heels of the recently released NFL (see Reviews, p. 85) comes NFL Video Master Football. developed by Konami's publishing partner Spirit of Discovery. This one takes a unique approach to sports games: It uses actual video footage to enact game play. Licensed by the NFL. Video Master Football uses sequences from the organization's film library

You have the option of playing a single game or an entire season, and, if you're ambitious, you can control all 28 teams simultaneously.





Konami's Batman Returns captures the mood of the movie.

You can switch from game to game to monitor how your teams are performing. NFL Video Master Football also features digitized speech and customized playbooks.

Konami has once again teamed up with Renegade Software - and the fruit of that labor is Fire and Ice.

In Fire and Ice, Cool Covote battles the elements through seven worlds and 30 levels of play. The action culminates in a heated fight to the finish with the Fire Wizard.

Weapons consist of varying forms, ranging from ice bombs to rain. You can cool off the hot-tempered Fire Wizard by seeding clouds with ice bombs and forcing it to rain. Cool Covote's most powerful weapon, however, is a blood-curdling howl that freezes and shatters anything in its path.

To advance, you must find pieces of each level's door key. Every piece is guarded by one of Fire Wizard's guards. You can neutralize them, though, by unleashing a pack of indestructible puppies

Prices for the Konami games Batman Returns. NFL Video Master Football.

and Fire and Ice weren't determined at press time. For information, contact Konami at (708) 215-5100. - D.M.

RUNNING WITH **CARL LEWIS**

Of all sports simulated in computer games, track and field has to rate as the most ignored. Now Psygnosis (Brookline, MA) plans to hurdle all obstacles in the way of producing a bestselling track and field game. It seems to have the ingredients of a winner: affiliation with a famous athlete and depiction of the details and complexities of the particular sport.

Carl Lewis Challenge (\$49.95) features five events - javelin, 100-meter sprint, 400-meter hurdles, high jump, and long jump.

As in real-life track and field, the event itself is only a reflection of the success of the training program. In this simulation, you're in charge of your country's top ten athletes. You plan their training schedules over a five-week period, monitor their weekly training, and pick the top five athletes for international competition. Carl Lewis Challenge features digitized images of world-class athletes, digitized stereo sound, digitized action replay, and more.

If you'd rather save the world than trim seconds off the 100-meter dash, you may prefer Psygnosis' Armour-Geddon (\$49.95). A sinister alien power has developed an energy-beam weapon capable of destroying all unprotected life on earth. You're in charge of a sophisticated weapons system, and your mission is to destroy that beam.

You control six vehicles: light tank, heavy tank, hovercraft, stealth fighter, stealth homber and helicopter. You can arm your craft with missiles, rockets, shells, and lasers.

You can also use your team of engineers and scientists to develop certain more-exotic devices, such as night sight, extra fuel tanks, cloakers, teleports, and so on. You can even create your own elaborate hightech weaponry from parts you salvage from defeated enemies.

You take in the action from a first-person perspective inside each vehicle, or from a number of exterior angles, including a satellite view. Your battlefield is made up of complex real-time 3D forms.

For fans of those cute little critters with a penchant for self-destruction. Lemmings has been a mega hit - but you probably figure you've saved your last tiny green-haired conformist. Not so.

Oh No! More Lemmings (\$49.95) offers 100 new adventures. So prepare vourself to save the little guys a few more hundred times this year.

For more information on Carl Lewis Challenge. Armour-Geddon, or Oh No! More Lemmings, contact Psygnosis at (617) 731-3553. - D.M.

1500 GAMES FOR \$69,95? The Digital Publishing

Company (Golden Valley, MN) is making an offer that's tough to refuse -1500 games on a CD-ROM disc for the retail price of \$69.95. That means for each game you're paying only . . . well, you figure it out.

PC Game Room is made up of shareware and public-domain software in 17 categories, including flight simulation, golf, sports, word puzzles, and so on. There's also a special section just for kids.

The software features a colorful user interface with pull-down menus designed to make it easy to review each program and copy it to the appropriate drive.

For \$76 (the extra \$7 is a shipping and handling charge), you can order the game directly. Call (800) -DM979-6000

STAY TUNED

Look for announcements and reviews of more new games from Chicago's Summer Consumer Electronics Show in the next issue of PCGames, on sale mid-September.

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Now Falcon 3.0 takes you places you've never flown before.

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Operation: Fighting Tiger requires Falcon 3.0 For Visa/MesterCard orders call 24 hours a day, 7 days a week: 1 800-886 GAME (Ord-For technical questions and availability call: 1-510-522-1184 (M-F. 9am-5pm PST) Operation Fighting Year and Felton 3.5 are trademarks and Spectrum HoloGyra is a regist

Circle 36 on Reader Service Card.

TOP GUN

TAKING CONTROL

Flying for real and realistic flight are two different things.

By Cameron Crotty

Jeez, that doesn't look so hard! Famous last words, courtesy of the makers of PC simulators.

You know you've been sitting in front of a PC too long when you decide you're ready for your private pilot's license just because you wasted five Luftwaffe accs over Britain. Not so, Jack. Getting a real license requires physical fitness, a ton of ground instruction, and hours of flight time.

Even though you can't apply the thousands of hours you've logged in virtual aircraft, you can still get up in the air if you've got that need for speed. The FAA recently approved the Recreational Pilot Certificate (RPC), an alternative to the costly and time-consuming Private Pilot Certificate (PPC). It's perfect for the armchair pilot who's itching to try out the real thing. For more details, see the accompanying sidebar, "Getting Your License."

But if your checkbook can't take the heat, and you don't exactly itch to fly for real, there's a consolation prize for the fear-of-reality



Mean weat the ready for printe date: colorado apeccadan s modes fore.

pilot — specialized flight controllers for the PC.

POWER AT YOUR FINGERTIPS Whether you're setting a

Boeing 747 on the ground or doing Mach 2 upside down, it never hurs to have the proper tools. Better desktop-flight controls take a lot less money than real flying lessons, but they make the experience a lot closer to the real thing. What say we push the grocery cart into the PC peripherals side?

For years, game-control designers created devices that plugged into the game (joystick) port. That may seem like a sensible approach until you consider the myriad controller possibilities available in

different flight programs. Developers have been experimenting recently with alternative pathways — such as building controllers around alreadyexisting software.

Most flight simulators force you to fly with one hand on the joystick and one hand dancing across the keyboard like Thing from The Addams Family. Slamming your throttle into afterburner detente loses something in translation when you wind up pressing F10 instead.

Enter the Thrustmaster Weapons Control System and Flight Control System for the serious hair-on-fire crowd. Is that you?

The Weapons Control System looks like a jetfighter throttle control, complete with a handful of buttons under your fingertips. Once you grab on, you don't have to let go of this stick until you or the bad guys are dead and gone.

The Weapons Control System plugs into your PC's keyboard port and sends signals that correspond to keystroke commands for the flight simulator's throttle movements and button clicks DIPswitch settings on the Weapons Control System let you configure the controls for different simulators - everything from Electronic Arts' Chuck Yeager's Air Combat to Dynamix's just-released Aces of the Pacific. If you feel the need to leave the atmosphere behind, you can even use the Weapons Control System with Origin's Wing Commander. Thrustmaster worked

flight developer to ensure that no matter what you're turning and burning, you can experience hands-on stick-and-throtte (HOSAT) flight, just like real jetfighter aces. And because you plug the keyboard into the Weapons Control System, you can go straight back to work when you're finished in the air. Your word processor will never know the difference.

closely with every major

The companion to the Weapons Control System is the Flight Control System, a huge, contoured, pistolgrip joystick with four buttons: one for your trigger finger, two for your thumb, and one for your little finger.

With the Flight Control System, you can cycle through targets, switch from air-to-air to air-to-ground weapony, arm bombs, and fire your cannon without atking your hand from the stick. As if that were cough, the flight Control System features a small, rounded mini-psystick for your thumb that lets you switch ockpit views withour reaching for the function keys.

The Flight Control System comes with a patch for most Electronic Arts software than will enable this handy gadget. And, best of all, other game manufacturers are building this functionality into new packages, or at least, providing updates for old ones. (Check with your favorite flight-simulator publisher for details.)

TRIGGER-HAPPY JET JOCKEYS

Flying your favorite crate with the Weapons Control System/Flight Control System pair can be tricky at first, but once you're in the groove, you'll wonder how you ever did without.

This is especially true for Falcon 3.0 hot dogs. How many times have you slapped at the £ key to toggle your ECM only to find that you missed, hit the R key, and killed your radar? Bad move when missiles are homing in — but it's Thrustmaster to the rescue.

(For more information on Thrustmaster's Weapons

GETTING YOUR LICENSE

The Recreational Pilot Certificate is an entry-level license that less beginning pilots fly homemade or relatively simple alleraft imust be less than 180 horsepower and carry fixed landing gear within a 30-mile radius of small airperts without control towers. Rether than focus on complex navigational, instrument, and air-traffic instruction, the RPC less you complete basic training, with an embasic an actual filith skill provided in the control towers.

To qualify for RPC instruction, you must be at least 17 years old, speak English for be subject to licensing restrictions), and held at least a third-class medical certificate. You'll start with a student-pilot certificate, which requires ground and flight instruction, and pre-solo written and flight tests.

Once you've made it through the hoops, you need roughly 30 hours of flight time — 15 hours with an instructor and 15 hours of sold time — before you can try for your final written and flight tests. Compare this with the Private Pilot Certificate's 40 hours of flight time and the RPC looks pretty good.

There are drawbacks to the RPC. You can't fly in towercontrolled air spaces, and the only way to increase your 50-mile radius is to take instruction at another airport. Still, the reduced cost and time requirements of an RPC make actill flight a realistic dream for aerial armchair aroonauts. — C.C.

Control System and Flight Control System, see PCG Reviews, January/February 1992, p. 62.)

DON'T LAUGH: It's no yoking matter

If you lean toward Learjets and Cessnas, a flight yoke and rudder pedals might be more your speed. They plug directly into your joystick port. It's tough to remember that you're sitting in a chair and not hopping hedges with an engine buzzing in your ear.

Rumor has it that CH
Products is working on a
yoke that's due out soon,
but until then your best bet
is the slick-looking MAXX

Yoke/Pedal System from

Maxximum Company, Some PC pilots have been watching a new company called Colorado Spectrum. Its Mouse foke straps your PC's mouse to the top of a clamp, and a round plastic tube with yoke handles slides beneath the mouse, rolling the ball around. It's a neat idea, and, on paper, it looked to be a contender. Unfortunately, vigorous testing revealed flasse.

Mouse-controlled flight is kludgy at best, and the Mouse Yoke makes no allowances for the fact that a mouse is a continuousmotion device you can usually pick up and put back down on the desk.

If you want to pull a loop, you have to keep pulling back on the yoke until is slides out of the clamp; even then you might not make it all the way around.

My advice is to go with a yoke that plugs into your computer's game port you just can't beat a control device that your PC monitors continuously.

THIS IS YOUR Aptain speaking

Attention, please. We're on final approach to Reality Central. Please fasten your control devices and check your wallets for any cash that

may be missing.
All of us here hope you've enjoyed your flight on Fantasy Airlines. Persons who need help explaining their new purchases should consult the Fantasy Airlines representative waiting in the terminal. And, please, come back and see us sometime real soon U

PRODUCT INFORMATIO

Mouse Yoke

Flight Control System Weapons Control System

Thrustmaster 10150 Southwest Nimbus Ave. Suite E Tigard, OR 97223 1503) 639-3200 \$89.95 each

em Colorado Spectrum 748 Whalers Way as Ave. Suite F-201 Fort Collins, CO 80525 13031 225-6829 18001 238-5983 orders \$34.95

MAXX Yoke/Pedal System Maxximum Company 205 20th Street South Nampa, ID 83686 1800) 766-6299 \$99.95/\$64

ROLE CALL

BALANCING ACT

Stop fighting and start thinking.

By Bernie Yee

I've been playing computer nole-playing games a long time. In days long gone by when tole-playing games such as Eye of the Beholder were just dreams in their designers' eyes, I was playing adventures like Zork — games that minmized combat and maximized puzzle solving: Unfortunately, it seems that with a few new (and old) exceptions, never the twain shall meet.

LEFT BRAIN, RIGHT BRAIN

Understandably, computer role-playing games have always been slanted toward combat, and away from puzzles. Why? Because a computer is a left-brain kind of device, a number councher

Human game masters can fabricate puzzles and acknowledge players who come up with creative ways of solving puzzles, but short of on-line game masters or sophisticated artificial intelligence, there's just no way your computer can duplicate that kind of problem solving.

Programmers may try to kludge it into a binary world, but it usually doesn't work.



Planet's Edge: something for thinkers and doers alike.

crunching best at? Combat. lots of combat. A computer can account for character dexterity, fatigue factors, armor class, encumbrance, even luck and karma (distilled to convenient numbers, of course) as it calculates damage points from a plasma-rifle blast or a conjured-up lightning bolt In the time it takes a human game master to solve one complicated round of combat, a computer can figure results for

And what's number

a dozen battles.
New lists of combat spells, scads of magical weapons, enchanted armor, and the sci-fi analogue of high-tech weaponry have sprung out of this aptitude, giving roleplaying games a tremen-

dous sense of diversity. WHERE DID THINGS GO WRONG?

But it's gone astray. Many role-playing games, especially fantasy role-playing games, are now too heavily skewed toward combat. Puzzle-solving and nonplayer character interaction are at an unconscionable minimum.

The ultimate irony is that games like Advanced Dungeons & Dragons — Clearly the genesis of fantasy role play on the PC — allowed game masters unlimited freedom in creating puzzles and challenges, while providing a simple combat and magic system.

The legacy on the computer side is less attractive, however, SSI's computer adaptations of the AD&D universe, for instance, leave out much of the puzzle solving. In fact, whar's left of puzzle solving is simply linear — find the right key or map, or use the right magic talisman, then on to the next level.

Puzzles occupy only a small part of a typical SSI AD&D milieu. Combat, endless combat, is the name of the game.

ALL MUSCLE

In Eye of the Beholder II: The Legend of Darkmoon, the party soon encounters a room full of Skeleton Warriors, which vastly outnumber and overpower you. The only way to

kill them?

First, save the game frequently. Second, lure some away and close the door to the room they lurk in. Kill two, go to another room, and sleep to recuperate. Wake up and go back and kill some more. Repeat until victory or you're sick of endless combat.

Even more annoying is the two-step killing technique. Attack, then sidestep. When the beholder moves, attack again, then sidestep again, never giving the beholder a chance to use its gaze weapons. Unrealistic and artificial. To sum it up: Eve of the

Beholder's puzzles are mostly of the find-the-rightkey, find-the-secret-door, or press-the-proper-floortrigger variety.

A few diverge from the pattern: The magic-mouth puzzle, which asks you to figure out what each mouth wants, is one example.

Still, most are linear, like the game, and there's only one answer — nowhere near the complexity that Zork purists enjoyed.



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The Gold Box series fares even worse. You can't walk three squares without some band of baddies jumping you in Pools of Darkness. for example.

Combat, combat, and more combat. What gives? Where are puzzles with the freshness and imagination of those in Wasteland, an old computer sci-fi roleplaying game by Interplay. which let you travel inside a demented and mid's brain?

DON'T LOSE HOPE

Two excellent examples of a newer approach to the puzzle/combat balance problem are New World Computing's Planet's Edge and Origin Systems' recent hit Illtima Underworld-The Stygian Abyss.

In Planet's Edge, you'll find two quite distinct approaches to puzzle solving. The doorkeeper wants you to find and return a stolen molecular oscillator before he lets you through? Fine, go look for it.

If you can't find it, you can come back with blasters drawn and bully your way through. Both the brutish and the wilv can solve the

Underworld adopts a similar approach, but since you're the Avatar, you can't go around hacking away at non-player characters just to get what you want - it'll

damage your karma. You have to go on the obscure-item hunt to find favor with certain characters, which isn't so bad it falls into the grand tradition of heroic deeds

like the Grail Quest. conversations, with key But for locked chests and certain doors, you can bash them down without look-

ing for the key. Because Underworld holds so many keys, that keeps the game from degenerating into just another key hunt

And even the abstract pull-the-right-lever puzzles in Underworld have multiple solutions. You can skip the puzzle, explore some more, and use a newly acquired Potion of Fly or Levitation spell to reach the inaccessible area.

Sir-Tech has a moretraditional approach to the problem. In Bane of the Cosmic Forge, gamers can type full sentences to nonplayer characters, which elicit certain vital reactions. And Mindcraft's Magic Candle 2 helps the gamer by providing a transcript of

words highlighted. Even the early reports of Ultima VII indicate that combat is de-emphasized, with interaction and puzzle solving more in the limelight, where it belongs.

NEW WORLDS

Combat is important, of course. After all, it's the stuff of which heroic legends, past and future, are made. But when a party dies repeatedly, or combat is so prevalent it gets tedious, then game designers need to stack the odds a little less in the gamer's favor.

As for puzzles, the onetrue-path type should be avoided. Instead, designers should create puzzles that reward creative solutions. not just the obvious or intended answer

That'll make your roleplaying world a moreinteresting, if less dangerous, place to play.

PRODUCT INFORMATION

Planet's Edge

Bane of the Cosmic Force Sir-Tech Software P.O. Box 245 Ogdensburg, NY 13669 1315) 393-6644 **CEO OE** 640K IBM PC. Tandy. or compatible requires two floopy drives or hard-disk drive monochrome, CGA, EGA, VGA, Tandy 16-color supports AdLib. SoundBlaster. Sound Master, Voice Master

Eye of the Beholder II: The Legend of Oarkmoon Strategic Simulations, (nc. 675 Almanor Ave. Suite 201 Sunnyvale, CA 940B6 (40B) 737-6800 \$59.95

640K IBM PC, Tandy, or compatible requires 2B6 or higher FGA VGA MCGA 00S 3.2 or later supports AdLib, SoundBlaster requires hard-disk drive mouse recommended

Magic Candle 2 Mindcraft Software 2291 205th St. Suite 201 Torrance, CA 90501 (B00) 525-4933 \$59.95 512K IBM PC. Tandy. or compatible BMHz or faster recommended EGA, VGA, Tandy 16-color requires hard-disk drive supports AdLib, Roland, SoundRiseter

New World Computing 20301 Ventura Blvd. Suite 200 Woodland Hills, CA 91364 IB1B) 999-0606 959 95 640K IBM PC. Tandy. or compatible EGA. VGA supports AdLib. Pro Audio-Spectrum, Roland, Sound-Blaster, SoundBlaster Pro. Thunderboard, Tandy sound requires hard-disk drive

Ultima Underworld: The Stygian Abyss Origin Systems P.O. Box 161750 Austin, TX 7B716 (800) 999-4939 \$79.95

1MB IBM PC, Tandy, or compatible requires 286 or higher. 3B6 recommended VCA

00S 2.1 or later supports AdLib, Roland MT-32/LAPC-1, SoundBlaster requires hard-disk drive. 14MB free

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SPORTS PAGE

IT'S ALL In the stats

Can sports games predict the future? Will they replace Vegas bookies? PCGames polls three top-notch baseball packages to find out.

By Wayne Kawamoto

Now that he's facing players who were wearing diapers when he began pitching in the majors, can Nolan Ryan have another good season? Will Roger Clemens win the Cy Young again? Can Detroit's Rob Deer become the all-time strike-out leader among batters? Will Sparky give him the chance? Like carthing a wild

knuckleball, statistical baseball games for the PC try to predict that, and much more. Sports Page asked the creators of Earl Weaver Baseball II. MicroLeague Baseball 4/USA Today Edition, and Tony La Russa's Ultimate Baseball to step up to the plate with their software and predict the 1992 division, pennant, and World Series winners The sluggers dug in and took their cuts. The results, as you'll see, are interesting.

YOU'RE NO TOMMY LASORDA Statistical baseball games

part database, part probability machine, part crys-



Tony La Russa's Ultimate Baseball features graphics that appeal to the eye and AI that appeals to the mind.

tal ball — use averages and statistics to project the performance of major-league players and teams. They try to treat America's pastime as a science. But their predictions are only educated best guesses. After all, who would have picked the Minnesota Twins and Atlanta Braves for the World Series last year?

In statistics-based games such as these three, you coach your favorite majorleague team to see whether or not your decisions can change the outcome. You arrange the lineups, assign starting pitchers, make the call to the bullpen, select ninch hitters, coach the base runners, signal a bunt, call for a hit-and-run play, set the defense, and more. If you've always thought that you could better Tommy Lasorda, then these games are for you.

Stat games on the PC are direct descendants of popular baschall board games like APBA and Strato-Maic Through the use of player stat cards, die rolls, and various charts, you played out baschall games and seasons based on the real statistics. Today, the computer's random generator replaces diec, and databases and indexes replace cards and charts.

TO EACH ITS OWN

When it comes to stats, each game plays by its own set of assumptions and mathematical formulas. In addition to batting averages, ERAs, home runs, RBIs, stolen bases, and errors, these games take into account everything from right- and left-handed pitchers against right- and left-handed batters to home-field advantage.

It's not uncommon for such assumptions, particularly when they deal with something as subjective as players' ratings, to be controversial. Some of that controversy comes from judgment calls on things such as a fielder's speed and throwing arm, factors for which no state exist.

GET REAL

Another issue in today's games is biased averages. Mark Burgraff writes baseball software and is creating a baseball league on the on-line service Compu-Serve. "Player usage is important," he says. "All you have to work with is actual at-bats." For realistic results, you can't constantly play a hatter who hit .400 with only 20 visits to the plate. In Burgraff's opinion, he would allow at-bats that are within only 15 percent of those of the real player's.

Burgraff feels another key issue is the "integrity of the computer manager. If he manages like a computer, you don't get real results." It's a real challenge for today's game designers to create computer managers that can make decisions like the real thing, not like robots.

STATS AND STREAKS

As we noted above, the three games that call the shots here all owe a debt to board games such as APBA.

STATS PICK SERIES							
National League	American League	World Series					
Earl Weaver Baseball II Pittsburgh, Atlanta	Toronto, Minnesota	Toronto vs. Pittsburgh or Atlanta no winner selected					
MicroLeague Baseball 4/ <u>USA Today</u> Edition St. Louis, Atlanta	Toronto, Seattle	Toronto vs. Atlanta/Toronto wins, 4-1					
Tony La Russa's Ultimate Baseball Pittsburgh, Atlanta	Toronto, Texas	Pittsburgh vs. Texas/Pittsburgh wins					

a comprehensive package that's evolved over the last 40 years to include more than 60 player ratings. APBA comes in a computer form now, too, and serves as a perfect example of baseball software that's more statistics than graphics. In fact, APBA's action and outcome are conveyed in a text commentary, much like reading a transcript of a radio broadcast. It works well, and there's a surprising amount of anticipation as you wait for the results. Farl Weaver Baseball II

accounts for 50 different hitter/fielder stats and 30 pitcher stats, while Tony La Russa's Ultimate Baseball uses some 49 batting, 14 fielding, and 44 pitching categories. Both games emphasize detailed graphics (Tony's are better, though) and offer optional arcade action as well. They're also similar in that they both use pure physics to determine the outcome of a batter's hit.

Tony La Russa's Ultimate Baseball has broken new and controversial ground with what the game's authors call "streak." In this case, a streak has nothing to do with a 1970s-style exhibitionist college prank. It's an algorithm that accounts for a player's hot and cold streaks throughout a season. For example, Reggie Jackson was nicknamed "Mr. October" because you could count on him to be "on" late in the year, even if his stats for the rest of the season weren't impressive.

MicroLeague Baseball 4/ USA Today Edition and its companion Analyst, use "time-tested sahermetric principles and established computer models" to proiect outcomes of the games. you can download weekly THE BOTTOM LINE So what did the experts

statistics

This version features digitized animations of live major-league players to perform the action. You can also program the computer coaches to determine how aggressively they manage their teams. Do you want to steal bases and gamble on the base paths? Or you want to be like Earl Weaver himself and wait for the threerun homer? For up-todate stats, MicroLeague has arrangements with the USA Today Sports Center so that

say? No easy pop fly or routine ground ball here. Because of PCGames' deadline, these projections were done in early April, before the season actually opened.

Our board members did their best to update their databases with recent trades and injuries, and to anticipate rookie phenomena. For example, MicroLeague performed weighted averages over the past few years to even out ballplayers' performances. Tony La Russa's team fine-tuned its player stats with last year's World Series, and then applied them to '92 with recent trades also incorporated.

PRODUCT INFORMATION

Flortronic Arts 1450 Fashion Island Blvd. San Mateo, CA 94404 1415) 571-7171 \$49.95 \$29.95 Commissioner's

Earl Weaver Baseball II

Disk II \$19.95 1990 MLBPA Player Stats & Manager Profiles Disk 512K IBM PC or compatible, 640K Tandy EGA. VGA. Tandy 16-color supports AdLib. Roland

MicroLeague Baseball 4/ **USA Today Edition** MicroLeague Sports 2201 Drummond Plaza Newark, DE 19711 1302) 368-9990 \$49.95 \$39.95 MicroLeague

Baseball Analyst

\$29.95 GM/Owner 640K IBM PC. Tandy. or compatible EGA. VGA. Tandy 16-color

Tony La Russa's Ultimate Baseball Strategic Simulations 675 Almanor Ave. Suite 201 Sunnyvale, CA 94086-2901 1408) 737-6800 \$49.95 \$19.95 13 NL Stadiums \$19.95 13 AL Stadiums \$19.95 1991 Teams

\$19.95 Great Teams 1901-1968 640K IBM PC. Tandy. or compatible 10MHz or faster recommended

supports AdLib, Roland, SoundBlaster

SWING, BATTER Did our trio of experts

get a piece of the ball, or was it a big swing and a miss? Take a look at the accompanying sidebar, "Stats Pick Series," then decide for yourself. And if the picks aren't on target when the Fall Classic rolls around, well, even the best umpire makes a bad call now and then.

YOU ARE THERE

WHISTLE-STOPS

Honey, I shrunk the Amtrak! Railroad simulations put an iron horse inside your PC.

By Peter Olafson

They haven't built the hard drive so small it couldn't hold a few up-inthe-attic items. Maybe you're thinking of old files, pictures, or board games. I'm not talking about those. I'm talking trains.

The computer is the period relation for model railroading. That gorgeous passenger terminal might look perfect on the main line of your HO-gauge set, but you have to actually pay for it, on your computer, it's just an ion or menu away. There's always room for more track on the computer, and digital trains stand invulnerable from real-world predators, like your engine-hairing chains.

Surprisingly, the PC doesn't sport all that many railroad simulations. The board-game syndrome plays a part, I suppose: The fun of railroading is partly in the physical qualities of handling pieces, moving controls, listening to the motion, putting your face down at track level to watch the Super Chief's approach, throwing the switch.

MicroProse's venerable Railroad Tycoon (now in its



Design Your Own Railroad: right down to the nitty-gritty.

third revision) still rules the roundhouse in terms of sheer size. But now along comes Maxis' A-Train (Orinda, CA, \$69.95), in essence a narrow-gauge version of Tycoon. It doesn't have Tycoon's coast-to-coast sweep or coal-mine-deep detail. And yet, in certain respects, it has much more: a bit of Sim-City bundled in.

Á-Train focuses on the growth of a single community and its 'burbs. It's essentially a rapid-transit simulation. (The real A Train is New York City's 8th Avenue express.) From what I've seen, it's going to be a lot of fun.

For starters. A-Train looks

distinctive — as much an artful midcentury train station as anything. The highresolution art-deco veneer of its menu bars, balance sheets, and advice screens hails from the days when railroad was king. Its isometric perspective — first seen in games like Populous — provides a delightful bank-camera view of the city you're building.

Well, not right away. Who needs that golf course or that stadium - or that amusement park or that ski resort - out here in the sticks? At the outset, A-Train hands you a comfy country town, the kind of place people move to when they're getting away from the city. The only trains that stop are the ones bringing in building supplies, which stack up like Chiclets at sidings. At the end, if you've kept your wits about you, the screen may look more like Chicago's Loop. the tableau in the most advanced of six scenarios. You do have a job to do

— they didn't give you \$5 million for nothing, y'know.
The tasks are three: building a successful passenger and freight railroad, help-

ing the city around it grow. and becoming a stockmarket tycoon. Not an easy business. But building track is as simple as running your first model-railroad oval. Then, naturally, you'll want to pick out a station, put trains on the track, and then tell them where to go. You can also set their schedules and the lengths of their lavovers - oh, ves, day turns to night, and seasons change, too - and set the switches to fall into place automatically for a particular train's passage

A-Train's a winner there's most definitely a light at the end of the tunnel. Design Your Own Rail-

road from Abracadata (Eugene, OR, \$59.95) is both a blueprint tool you use to draw up real models and an electronic model railroad for folks who just want the pleasure of directing traffic.

The screens and interface are Windows-like — the program is extremely easy to use. At the same time, there's some nice sophistication built in — more of the nitty-gritty work of railroading, right down to coupling cars and setting top speeds.

The name of the game

here is customization. The built-in paint program lets you create anything you set your mind to: scenery, buildings, or cars. Not even a train-hating cat could quarrel with that.



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CHILD'S PLAY

HIDDEN RESOURCES

Watch carefully and you'll see that learning grows in the most unlikely places.

By Gregg Keizer Where there's smoke.

there's fire. And where there's fun, there's learning. One may be a cliché, the other as unknown as silence on the playground, but

other as unknown as silence on the playground, but they're both true nonetheless. Dig under the surface of anything kids think of as fun, and there's some education going on.

It may be frivolous learning—that's the way adults see much of it, anyway—but it's still learning. Those 122-year-old rollerbladers imitating a pack of crassing a pack of crassing a pack of crassing a pack of crassing and effect. First-graders out for recess may sound like a band of bad bappies, but they're picking up vital pieces of their education: cooperation, competition, creativity and imagination.

The same thing happens when kids hit the keyboard and hang onto the mouse at the home computer. It doesn't even matter whether or not the software they're using carries an education/ edutainment tag — they'll still learn something. And because kids won't spend time on the home PC



unless it is fun, that means they're learning almost every minute.

That's the good news, that education isn't limited to software titles pulled from store shelves labeled Learning. The bad news. and it isn't even all that bad, is that it's sometimes tough for parents to notice when learning takes place. But if you're going to offer some encouragement and applause at new things discovered and mastered. you need to keep your eyes and ears open. You need to be ready for learning almost anywhere.

LEARNING THE NATURAL WAY

Some software is clearly as educational as it is fun. Those are the titles you find in the store racks labeled Educational. Yet even with these programs, it's not

always easy to identify the learning that takes place. A good example is **Kid-**

A good example is Kid-Works. This Davidson & Associates product combines an elementary word processor with a simple graphics program, then adds lots of bells and whistles, including robotic sounds and custom icon design, to grab and hold kids' attention. But exactly what kinds of things does KidWorks teach?

Kudworks teach?
It teaches phonetics and punctuation for starters. Because Kidworks talks back to its writerfillustrator, pronouncing the words in a synthesized voice, it as synthesized voice, it correct spelling, kids have to come close — at least phonetically — to make the program's pronunciations understandable. The result was be stranged to the come close.

words, but the trial-anderror process of matching what's on screen with what they hear makes kids think about language, its sounds, and its sometimes odd rules of pronunciation.

KidWorks also pushes kids to use punctuation, because it "reads" commas as pauses and periods as longer delays. String together words without punctuation, and they're recited in long-winded sentences until the child wises up and starts dropping commas and periods into the text.

Children learn other things with KidWorks, too, such as sequencing (vital to storytelling) and the power of pictures (as an adjunct to writing). The program's illustrator module lets children easily create original pictures for the stories they write. (For more information on this program see the review section, Spring/Summer 1992, p. 122.

OLD FAVORITES,

Other software fits this pattern, as well. Broderbund's Where in the World Is Carmen Sandiego? and the other titles in the Carmen series make a point to teach research skills by bundling almanacs and the like with the software.

For those of you new to the computer-game world, the Carmen titles (which Become a legend before your own time.



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include Where in the World. Where in Time. and Where In America's Past Is Carmen Sandiego?) put kids on the trail of the grande dame of crime and her band of crooks. As crime-stopper detectives. young players must track down the thieves and

retrieve the stolen loot. To keep players from wandering aimlessly, hoping to run into the crooks. the games include reference guides. Because the reference works are an integral part of the game process, kids learn how to look up facts. (For more information on the Carmen Sandiego series, see "Take 2," p. 50 in this issue.)

EYES OPEN

It doesn't take a rocket scientist to see this learning taking place. All you have to do is watch for a few minutes, and you'll notice these learning activities (and more) happening on and off screen.

Your job, as parent, is to look, note, and encourage, especially when you see these traits - phonetic spelling and punctuation in KidWorks, for example, or historical facts and dates in the Carmen series moving from computer to paper.

MAPMAKER, MAPMAKER, MAKE ME A MAP

It's a bit harder to spot learning in some other PC packages, Sierra's Mixed Up Fairy Tales may seem more like a game just for grins at first glance, but it can be a hotbed of education - not the overt kind demonstrated by KidWorks or the Carmen Sandiego series, perhaps, but learning with some subtlety.

The premise is simple: Five traditional fairy tales, such as lack and the Beanstalk, Cinderella, and Humbty Dumpty have been fractured; kids travel through makebelieve territory, looking for separated characters and story props.

Because Mixed Up Fairy Tales doesn't talk, but puts dialogue on screen as text. it's obvious that kids are using reading skills to decipher clues and solve problems. What's not so obvious is that they're making and using maps.

Land of the Fairy Tales isn't a big place as adventure territory goes, but it's large enough to need a map. The program graciously provides one, and even marks the player's position with a "vou are here" indicator.

But to find the game's characters and props, kids really have to make maps of their own. My 6-year-old daughter played Mixed Up Fairy Tales for weeks using the built-in map, but also scratched out her own directions from the clues the game offered. The maps were crude, but they served her purpose -- they identified landmarks, noted direction, and even paid some attention to spatial relationships.

(A similar version of this game is designed for systems equipped with CD-ROM drives. For more information, see Reviews. December 1991, p. 64.) Such ad hoc learning -

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award-winning LINKS golf game offers many dramatic improvements that make playing LINKS 386 Pro more enjoyable - and gives you exciting new golfing possibilities! SUPER VGA Graphics and 386 Power. Texturing of

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it wasn't coached by a parent or directed by the software — is learning in the purest sense. Kids decide, on their own, what they need to do to complete the game, or what they must do to simply prolong the fun.

to simply prolong the till.
Sideways learning like
this often comes from software devoid of an education label. Graphics packages teach shapes and color
blending. Spreadsheets
illustrate mathematics, war
games lead to hitting the
history books, and roleplaying adventures beef up
nroblem-solving skills.

As parents, it's our responsibility to keep a weather eye for learning whenever the computer is turned on — not so much to monitor or censor, though that's important at times, but to see when chil-

dren learn, to spot what they're learning, and then to help them dig deeper into the activity or interest. It's the true joy of being a parent or an educator. If digital education is to be more than just one more electronic babysitter, parents must use the computer as a springboard to other kinds of learning. and make sure that those things taught on screen move off the monitor and into the real world. All it takes is an eye for smoke and fun.

PRODUCT INFORMATION

KidWorks
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\$49.95
640K IEM PC, Tandy,
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SOUND INVESTMENTS

This year is giving PC gamers a front-row seat at a spectacular sound performance.

By Barry Brenesal

Silence isn't golden in games. A quiet game signs its own death warrant today, when music fills ears and spoken dialogue fleshes out the plot in the best of PC entertainment. Your PC cartitals, sings or thunder without some help, though. You need to slip an audio board into an empty expansion slot to turn on the sound.

Fortunately, you've never had it so good when it comes to PC-gaming audio. A slew of compelling trends are apparent – some that have produced results, others just getting off the ground. Let's look at a few of the leaders, and ponder why there's cause for celebration when it comes to the sounds of gaming.

The price of good com-

puter hardware is lower than ever, and even the newest sound cards offer more value today than their counterparts did a year ago —without a corresponding increase in cost. Creative Labs' Sound Blaster Pro (Milpitas, CA), for instance, is worth much more than its current \$299.95 sup-



Sound Blaster Pro: worth the wait, worth the price.

gested retail price. You can say as much or more for the newer AdLib Gold 1000 (Quebec Gir, Quebec), which lists for about \$299.95, too. Both cards are relatively inexpensive (street prices about 65 percent of their list values), include superior features (such as MIDI and CD-ROM interfaces), and are compatible over a wide range of sound-reproduction formats.

In addition, this year's most exciting audio news is the technology behind Adlah Gold 1000. Paul Mudra, director of audio development for Wessons and the produces the excellent Eye of the Beholder series for SSI), waxes enthusiastic: "The architecture is very close to the Yamaha, which is sold to studio musicians — not the cut-down sounds we make due with tradi-

tionally in the computer field. Using AdLib Gold, music can take on much more life, become more realistic. A game we're doing right now has caverns. With Surround Sound, we can use different types and lengths of reverb effects to make each cavern a unique place."

Other technological developments focus on the compatibility issue. Programming a musical score several times for several different cards is a lot of work. It's not surprising, then, that some of the resulting transfers sound disappointing, while others simply don't work. That's why I share the enthusiasm of Sierra's music director, Mark Seibert, for the increase in industry acceptance of the new MIDI GS standard, in which all 128 patches are mapped identically. Roland Sound Canvas (Los Angeles, CA,

\$795) uses the MIDI GS standard now, and others should follow suit. The end result is you'll see more games this year and next that play on every sound board.

No matter how good the hardware, though, you need good software to harness its potential. Game manufacturers are putting money where their sound mouths are these days, with impressive payoffs. One of the biggest and most successful is Origin Systems. Investing in audio has enhanced Origin's games in some innovative ways. Wing Commander, for instance, uses Star Warsstyle music and sound that mirror your futuristic spaceace character's successes and failures, moment by moment, on the battlefield. Changing the mood to fit your actions pulls you into the game's subjective reality and helps get

In short, this year continues to be the best vet for PC-computerized gaming audio. You're assured a front-row seat at a spectacular sound performance, which, by the way, is a better view than the one PC users who don't play games get. Keep that in mind the next time you drive a NASCAR track, fly across Iraq, or decapitate a goblin. And don't smirk at those less fortunate than yourself, who stick with

the mute PC.

around holes in the plot.



SNEAK PEEKS

CRISIS IN THE KREMLIN

By Peter Glafson

Only the computer can make you King - or Prime Minister, or President, or Master of the Universe, Kingmaking is a well-respected art in computer games. Back near the dawn of silicon entertainment, a program approximately called Kingdom put you on the throne. You bought and sold land, planted a portion of it with wheat, assigned a portion of the people to harvest and distribute the grain, stored and sold a portion of the crop. The object - more or less was to keep your people happy. If you didn't strike the right balance, after a while you weren't King anymore.

The charm of a sound, simple idea is always durable, and this elemental premise has been the heart of the models used in most subsequent you-run-things games.

The most recent, and most sophisticated, incarnation is Spectrum HoloByte's forthcoming Crisis in the Krenlin. This massive governmental strategy game, built around the Soviet Union's painful struggle toward democracy, casts the player as either hard-line Yegor Ligachev, reformist Mikhail Gorbachev, or antionalist leader Bons Yelsin. The deposites, business to difficult for the Soviet peoples — a most difficult tightrope act. Crisis in the Krenlin is easily the best game of its type.

Live Long and Prosper

After you emblazon your name on your personal file, check out the headlines in *The Times* (of London),



tour action station during crisis pars communist controls at your ingercips.

and digest a congratulatory note from your mom (she's proud of her haby), you can start setting policy in ten areas. Ranging from gorenment style areas allows ten different stances — from despotic to ultraliberal. You can toy with the budget categories; either in a general way by setting percentages for across-theboard increases and reductions, or in detail by particular areas of the government and economy.

And when one of numerous areas enters a crisis — you'll occasionally feel like a firefighter running from hot spot to hot spot — you're given a choice of as many as five resolution options of varying severity.

If you read the newspapers, you already have some idea what to expect in the early years (Crisis begins in 1985); the nuclear accident at Chernobyl, a rising tide of civilian protest, calls for glasmost and perestroites,

the attempted secession of the Baltic states, and the ascendance of Yeltsin.

All this is splendidly orchestrated by advisory telex communiqués from ministries, KGB reports on CIA interceptions, television news broadcasts complete with silect video shot by CNN, digitized photos, dispatches of poll results, and animations of such things as your band reaching for a crisis phone. You can collect highs for later viewing yia a VCR-style interface; just bear in mind that it's a Sowiet VCR.

Naturally, you have access to a good amount of detail at most any time from the main game screen — a scrolling world map bracketed with a dashboard of clickable status bars and buttons.

The object? Keep the people happy. And if you don't, well, eventually an ominous message on England's BBC reports your untimely death and the ascension to power of the head of the KGB, a euphemism for a palace coup. It's tough. As Premier Peterooski, I never lasted past late 1988.

On one level, Crisis is a rock-solid game that stresses interrelationships and rewards a holistic approach. A quick-fix resolution of one crisis may well be the catalyst for another. Slow and stready wins the race

Crisis in the Kremlin would make an ideal teaching tool in a high-school history or political-science class. And presentation is so elegant — there's something almost regal in its bearing— that it's bound to tie up far too much of your time at home. Kingdom? Kingdom who?

Moreover, Crisis doesn't succumb to the main vulnerability of games like this: It doesn't fele like a camoullaged mathematical formula. There's abays a risk in a game like this that the Russian bear will appear to have no fur — that is, the polynomial skeleton beneath will wear through the game's fabric.

But Crisis so clothes its internal operations in luscious graphics and animations that you don't even think about the gears meshing in its back room. That's a tribute both to the sophistication of the model and to Spec-

urum's theatrical skill in concealing it.
As is customary with previews, I saw
Crisis in an under-construction
version. It wasn't quite done, and that
work-in-progress status renders it
somewhat immune to the sort of
detailed criticism you'd normally see.
Still, there's one misgiving that must
be mentioned: Crisis in the Kremlin
seems too lighthearted.

In some places, this is delightful—as when selecting the *Uncontrolled* level for media freedom while setting policy, a national tabloid pops up with the headline "Elvis Tribe Found in Siberia."

But the humor goes too far occasionally, notably in the options offered to relieve a crisis. During a food crisis, for instance, there's a option to distribute free copies of "1,001 Delightful Cabbage Recipes," and during a consumer-goods crisis you can elect to "Encourage people to study Zerb Buddhism so they can get

along without material possessions."
We need games that are bright and lively, and that make us smile as they make us think, but the plight of the former Soviet Union and its spin-off

make us think, but the plight of the former Soviet Union and its spin-off republics isn't really a laughing matter. Wouldn't it have been more instructive, and more in the spirit of the game, to introduce real options?

Nevertheless, against the giant tableau of Crisis in the Kremlin, that's a fairly minor lament. Ochen khorosho, Spectrum — very good.

Spectrum HoloByte, 2061 Challenger Drive, Alameda, CA 94501, (510) 522-1164; IBM PC, Tandy, or compatible, 640K RIM; EGA, VGA; supports AdLsb, Roland, Sound Blaster; requires harddisk drive: mouse recommended: 869-95

JUST GRANDMA AND ME

By Lafe Low

Imagine an Alice who spins the tale of Wonderland herself — or a New England whaler who whispers, "Call me Ishmael," as he recounts his time aboard the Peauod. Talking books may be already on tape, with versions ported over to television for years, but they're new to the home computer. Thanks to the technology of multimedia, though, they're here now. And they're great.

"Hi there," says a little critter as he greets you at the beginning of Just Grandma and Me. This captivating and comforting children's interactive — and talking — storybook gives you a warm-and-fuzzy feeling the whole way through.

Based on popular kids'-lit author Mercer Mayer's Just Crandua and Mr his multimedia production is the first of Broderbund's Living Books series. Better than a book, better than a painting, better than a movie, this talking tale of a delighful day at the beach with Grandma will hold a child's fascination like few things you've seen on the PC.

Whimsical Adventure

As you'd expect from something aimed at kids aged 3 to 8, Just Grandma and Me's opening menu screen (or, more appropriately, its tilet page is simple. The little critter directs you, both with speech and hand gestures, to have the story read to you or to play it yourself, select the language you'd like (English, Spanish, or



Just Grandma and Me's screens are minefields of animation.

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Requires IBM compatible 286, 386, or 486 with color VBA monitor & mouse, Joystick optional. Game-Maker designed & produced by Recreational Software Designs. Circle 98 or Reader Service Cerd. Japanese), head to other options, or quit. The little critter — that's really what he calls himself — boogies to the music while you decide what to do.

music while you decide what to do. The music in Just Grandma and Me, from the introductory score to the background tunes throughout the story, is redolent of the Vince Guaraldi Trio, the renowned jazz group probably best recognized as responsible for the music in the Panust selection specials. It's perfectly appropriate — at once whimsical, medic, and engaging.

The natural, cherubic voice of the little critter – remember, MPC soft-ware such as Just Grandma and Me can actually talk to you — is sure to put any child at ease, even if he or she is playing with a computer for the very first time. You may never discover the little critter's name, but it's no matter. After the first couple of pages, you feel as though you know him anyway.

Because you can listen to Just Crandma and Me in English, Japanese, or ma and We in English, Japanese, or Spanish, it's perfect for tota' language learning, Japanese or Spanish, it's perfect for tota' language learning, Japanese or Spanish-spakers may absort while English spakers may absort while English spakers may absort of the order to ther languages simply by sitesting. No note's been fell out of Justine Justice Grandma and Me, though, for eventhearing-impaired kids will be called the animations spread throughout the book.

The Read to Me option takes kids all the way through the story, and gives them — if they want it complete control. Children can go through the story page by page, back up to look at previously explored pages, or stay on one page and see what surprises it holds.

Once a child begins the trip to the beach with Grandma, the screen comes alive. Click on just about anything and you get a presentation. On the first page, as you're looking at Grandma and the little critter wairing for the bus to the beach, you can click on the tree, the bird's nest, the coop, the mailbox, Grandma's bag, the house, Grandma herself, and who

knows what else. Click on nearly anything that isn't a background graphic and it springs to life. In front of Grandma's house, clicking on the tree sends a squirrel into a frenzied search. At the beach, clicking on a starfish sends it into a funky dance

The educational value of multimedia applications such as just Grandma and Me is obvious to adults, but well hidden to kids. Between the rich sound and music, animated storybook paintings, and explore-as-you-go concepts, a child could spend a minute or an hour and have an enriching and rewarding experience either way.

Hands Off, Parents

Just Grandma and Me doesn't need any adult supervision; a child can get going with the program with only minimal help. Even children with short attention spans will be hooked.

Broderbund's series of Living Books will ultimately include Mare Brown's Arthur's Teacher Trouble and "The Tortoise and the Hare" from Asop's Fables. The company also will convert a number of classic children's tales and poetty to Living Books format for the multimedia-equipped PC.

Just Grandma and Me is a wonderful example of what MPC can do. Sure, all that wild hardware and software you'll need just to get the program off the ground can be expensive, but it's difficult to put a price on the way a child's eyes light up when he or she turns the first page. This charming story rightfully takes center stage as multimedia debuts on the PC. □

Broderband Software, 500 Reshoood Blod, Newsto, CA 94948-6121, (415) 382-4400, MPC-compatible IBM PC, Tanda, or compatible, 3863X or faster, 24M8 PAM VCA, 4MB RAM VCA, DOS 3.1 or later, Microsoft Windows 3.0-wild Multimedia Extensions 1.0 or later; VCA, 3FCA; 30MB or larger hard-disk drive, CD-ROM drive with sastands 150Ksetransfer rate and one-second or less average seek inter, MPC-compatible sound board (AdLib Cold, Pro-Andels Spectrum, Sound Blazer Proj; mous; \$49.95

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The 40-bit half flight Like real guil,
Glob langth and find will describe language and
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Game Handicap.







What's new on the computer-golf scene? Recent releases and updated titles offer state-of-the-art graphics, tighter-thanever control, sophisticated strategy, and that irresistible arcade challenge.

By Peter Scisco

summer thunderstorm hammers rain on your windshield. It's your first free weekend in months — and all you can think about is the bag of clubs in your trunk, the \$30 greens fee you paid for an early tee time, and

the miserable, driving downpour. Wait a minute — was that lightning?

Get smart — go home to your PC. Computer golf games combine strategy and arcade so cleanly that it's difficult to imagine another sport better suited to the computer. Even an apprentice computer user — or golfer, for that matter — can quickly learn enough about the game and the PC to play competitively. The commands, the rules, the scoring, and the challenges are the epitome of simplicity.

New releases — both from senior players in golf software and from tour rookies — open the game to even more sophisticated and realistic vistas

Accolade and Access Software, two longtime golf-game publishers, have new editions in the pro shop. Electronic Arts, a



Access Software has retained its lead in computer-gol graphics with its creation of LINKS 386 Pro.



To handle LINKS 386 Pro's stunning visuals your system has to pack a lot of muscle.

more recent entry, has a new version ready, too. And no less a giant, Microsoft, with the help of Access, is getting into the act with Microsoft Golf, a version of LINKS specially designed for Windows. There's even a multimedia version slated to follow.

If you haven't hit a computerized golf ball lately, you'll be amazed at the changes in this silicon sport. From state-of-the-art graphics to improved control, from tournament play to sophisticated interfaces, the latest round of computer golf tees off for the big feather.

POWERFUL GOOD LOOKS

Access Software hit one of the biggest drives of the computer golf-game match when it released LINKS in 1990. No other golf game brought so much reality to the PC screen. LINKS was serious stuff — not just a same, but a simulation.

The newest LINKS – LINKS 386 Pro — retains Access' lead in computer-golf graphics. As you stand on the LINKS 386 Pro tee, the course spreads out before you in photographic detail, with terrain so lifelike and clear that you feel as though you're playing the real thing — or at least watching the real thing on interactive TV.

But this detail exacts a hefty hardware price. You simply can't play this game (or Microsoft Golf) on a PC equipped with the lowly 286. Not only do you need a 386-based computer, but you also need a Super VGA card equipped with 1 megabyte of video memory and a compatible monitor. Additional demands include at least 2 megabytes of memory (though you really need 4).

LINKS 386 Pro even uses a DOS extender to create a contiguous memory area large enough to handle the sturning visuals. And to guarantee against system crashes, you'll need to eliminate all memory-resident programs, disk caches, and RAM disks from your machine before playing. This program isn't for everyone: Only the best-equipped earners can olay LINKS.

Microsoft Golf requires the same amount of muscle, plus it needs windows. And if the company designs an MPC (multimedia personal computer) version, it'll demand an MPCcompatible CD-ROM drive, and Windows 3.1 or 3.0 with Multimedia Extensions

Extensions. You don't need quite as much power to play PCA Tour for Windows, but, as with all Windows applications, the more you can afford the better the programs run. A 386 or faster computer and a couple megabytes of RAM should do. You can get by with less in PGA Tour for Windows because it forgoes realistic displaying screen in 6 or 256 colors. The up side is that PGA Tour for Windows redraws the scene faster than any of the games reviewed here.

Jack Nicklaus Golf & Course Design: Signature Edition uses 256 colors and shading to create the slopes and contours of actual golf courses. With fully digitized players and animation, it's a much improved look over other Jack Nicklaus games. Best of all, it insists on the least amount of horsepower. Nicklaus players end only a 286 computer with VGA graphics and 640K of RAM — no Windows, no DOS extenders, no Super VGA.

Jack Nicklaus does a good job of showing the terrain of a golf contained and the trees that form hazards and obstacles along the fairways. We water and bunkers are noticably flat water and bunkers are noticably flat — the game just can't convey depth and dimension the way LINKS 386 Pro does. And you pay the price of this lack of power in other ways, too, for Nicklaus redraws the scretaws the scretage of the contained with PGA Tour.

Nicklaus and LINKS 386 Pro offer digitized players, but the 386 Pro players show more detail. The animation is excellent in both. PGA Tour for Windows uses drawn characters that, though expertly animated, lack realism. All three games offer the choice of male or female players in different styles and dress.

PLAY'S THE THING

No golf game is worth a divot if it doesn't play well. Fortunately, all these games show dramatic improvement over their earlier incarnations. Some new features come from customer demands, while others arrive courtesy of the graphics interfaces made possible by Windows.

Jack Nicklaus is a good example of how a game can get better without losing the qualities that made it a winner in the first place. Accolade recommends a mouse for play, but you can execute all of the game's commands easily from the keyboard. (The exception is the course-design module; selecting different options and operations is much easier there with mouse in hand.)

This mouse recommendation shows how far Accolade has gone in creating a push-button interface for Nicklaus. You'll welcome such small improvements as the club-selection screen. which lets you pick a club from a menu, for instance. Earlier versions limited you to checking a club's distance rating from a similar menu; you couldn't select a club from there Clubs tend to play a little shorter than the ratings suggest in Nicklaus, so when in doubt, take a bigger club.

Another change in the new Nicklaus is the power bar you use to decide how hard to hit the ball. In previous editions, the bar stood vertically at the left-hand side of the screen. Jack Nicklaus Signature Edition brings the bar to the bottom of the screen, which allows for a

wider, more panoramic playing screen.

Like most golf games, Jack Nicklaus uses a three-press system for making shots: Press a button to start your swing, press the button again when the power bar hits the correct level, then press the button a third time when the power bar descends to the snap line. Beginning players will have trouble mastering the stroke, as the power indicator moves fast even on a 16-megahertz machine. An accurate shot is almost a matter of luck, which eliminates a lot of the strategic element of the game.

PGA Tour for Windows also uses the three-press approach, but the power bar is much easier to judge. Even on a 486 computer (a lot more computer than most people have at home), it's possible to make precise shots. The power bar itself is much smaller than the one in Nicklaus, but the graphics resolution makes it easy to read and use. Clubs in PGA Tour for Windows generally play a little longer than their ratings; play one fewer club on an approach with trouble behind the green. The exception is when you face a water hazard that fronts the green. In that case, it's better to go long than to fall short and lose a stroke to the water.

LINKS 386 Pro and Microsoft Golf use an entirely different pattern for golf swings. Instead of a horizontal power bar, this pair uses a circular

power meter. The snap point is at the bottom of the circle; the fullpower mark is at the top. Press a button to start the swing, hold the button or key as you watch the power indicator go around, release the button when the indicator

reaches the desired level.

THE GREEN MACHINE

MicroProse made its name in heavyduty combat simulations for the discriminating power monger. But now the company is working with one of its overseas partners to create a golf game it can call its own. It tests the imagination to wonder what the result will be. Arnold Palmer meets SDI? Lee Travino Stealth Golf? This fall, silicon duffers will find out when the company releases GREENS

According to information available at press time, the PC version of GREENS will feature six courses, 3D graphics images, an automatic handicap system. right- and left-handed swings, tournament play, and several other options. A version for the Commodore Amiga computer is already available.

Perhaps GREENS' most intriguing feature is a special view from behind the ball - you're taken on a flight through space from tee to fairway to green. First impressions easily make that the most dramatic graphics element of the game. Dverall, though, the design has a long way to go before it can compete with the four titles covered here. - P.S.

watch it move back toward the starting position, then finally press the button or key one last time when the indicator hits zero.

Different enough from other golf games to stymic first-time players, this procedure takes some getting used to. The power delineations aren't marked as clearly as those in Nicklaus, which divides its power bar into ten sections (think of them as percentages of the full swing), or PGA Tour Golf for Windows, which segments its bar into four parts, each a quarter of a full swing.

The only way to become an accurate golfer with LINKS 386 Pro or Microsoft Golf is by hitting buckets of balls on the driving range and chipping green. Club distances are consistent with their posted ratings, but the clubs play shorter than you might expect from the fairway. You're usually better off taking a longer club on an approach shot.



PGA Tour Windows puts critical information at your fire



You can still play against the Golden Bear in Jack Nicklaus Signature Edition.



creations in the Signature Edition.

Selecting clubs and accessing other game options are simplified in both PGA Tour Golf for Windows and Microsoft Golf through the built-in Windows dialog boxes and drop-down menus. LINKS 386 Pro adopts an improved interface in the style of Jack Nicklaus, but the higher display resolution makes room for more player options on screen for immediate access. Club selection, for example, is almost automatic - simply pass the cursor over the Club Indicator button and the available clubs pop up in a menu, ready for your pick.

AIM WELL

Each game employs its own peculiar technique for aiming shots, though the aiming methods remain consistent within each, no matter from where you're hitting. To aim a shot in Iack Nicklaus, for instance, you move an aiming ball at the top of the screen to the right or left; a straight hit travels toward the ball, PGA Tour Golf for Windows works much the same, except that it uses a cross hair in the center of the screen as a target. LINKS 386 Pro and Microsoft Golf

use a barber-shop pole you can place almost anywhere on the fairway or green. This marker has one additional advantage as well: It indicates the distance between the pole and the point where the player addresses the ball — invaluable information when you're selecting a club to lay a shot in front of the green, or for calculat-

ing whether you can fly a fairway bunker from the tee. All these games use topographic

grids to help you read the breaks on the green, though each uses the grid in different ways. Putting in Tack Nicklans and PGA Tour Golf for Windows is difficult: in LINKS 386 Pro and Microsoft Golf, putting still isn't easy, but play is more consistent.

Aligning a putt in Jack Nicklaus means drawing an imaginary line between your ball on the green, the hole, and the aiming ball at the top of the screen. But the grid fails to give an accurate picture of breaks and undulations.

The game's break indicator measures the severity and direction of a green's slope on an arbitrary scale from 00 to 35, with 35 being the steepest. On this scale, you'd think that a 04 grade would be insignificant, but even a number that small can affect your putt considerably. (A little math reveals that 04 is actually a steep 11-percent grade - but who wants to use a calculator when playing golf?) It would have made more sense to base the scale on degrees from 00 to 90 (90 degrees is a right angle), so that you could instinctively judge the severity of the break.

In PGA Tour Golf for Windows, the distances among your ball, the hole, and the target point are shorter than in Nicklaus, and so easier to align. What complicates matters is that the game moves you to a separate grid

screen before each putt, although that screen provides better information about the green than what's available in Nicklaus. Besides the accurate topographic lines, you also get a measurement of how far your ball is above or below the cup. That's useful when you're figuring how hard or soft to putt.

LINKS 386 Pro and Microsoft Golf offer the easiest aiming mechanism for putting: Just place the barber pole directly on the green. Like PGA, these two games provide ample information for judging the severity of breaks and slopes, including an accurate grid and a measurement of relative position (above or below the cup). With LINKS 386 Pro, you can even call up a profile view, which provides this information from anywhere on the course (great for determining how to play an uphill approach).

THE RIGHT TOUCH

This quartet of games exploit the experience of generations of computer-golf titles to offer several specialty areas. Computer golfers often buy more than one game, and they'll have plenty of special features from which to choose among these four.

Jack Nicklaus Signature Edition, of course, includes a sophisticated course architect and designer. If you want to build your own course, perhaps modeling one after a local course you play. Nicklaus has no equal. Accolade

has expanded the number of graphics objects, from hazards to backgrounds, available to course-designer wannabes. Whether you start from scratch or modify the two courses that come with the game, designing 18 holes presents a different and interesting challenge when you don't really feel like chasing the ball through the heather.

You'll also enjoy Nicklaus' customizing features that let you pick the look of your computer persona, and that let you create computer opponents modeled after real golfers. To create a golfer, use the Computer Player Shots screen to set different skill and accuracy percentages for different shots, according to statistics of the golfer you want to imitate.

LINKS 386 Pro has a similar feature—its "unique human opponent." This option lets you save a single player performance in its entirety, essentially creating a computerized opponent from your personal best efforts. You can even send the profile to a friend, and he or she can play against your silicon clone.

PGA Tour for Windows, LINKS 386 Pro, and Microsoft Golf offer special shot selections not available in Nick-



The graphics images in PGA Tour for Windows are created for speed — not realism.

laus. Chip shots appear as a menu selection in all three, while Nicklaus omits it (but includes a somewhat similar punch shot). LINKS 386 Pro and Microsoft Golf have sophisticated setup screens you can use to define shots in as many as six different ways, and then save for later use.

With the exception of Microsoft Golf, all games profiled here include a tournament mode. In Nicklaus, your tournament can sport as many as 72 players; you can set it to cover from one to five rounds. The tournaments aren't as formal as those in PGA Tour Golf for Windows, which recreates the feel of a real PGA tour-

nament, complete with opponents culled from the ranks of PGA professionals and cuts from round to round. LINKS 386 Pro brings tournament play to a new level with a connection to the Computer Sports Network, where you can compete

with other com-

puter golfers from across the country in interactive play.

19TH HOLE

Computer golf owes its popularity to the same things that make real golf one of the world's fastest-growing sports. Both require mental toughness over physical strength. Both can be played by almost anyone. And both play in a natural setting, away from stadiums and painted lines. While computer golf will never replace the real game, it's a canny imitation, one better suited to the PC than any other sport. And it sure beats dodging lightning on the fairway. U

PRUDUCT INFURMATION

Jack Nicklaus
Gelf & Gourse Design:
Signature Edition
Accolade
550 South Winchester Blvd.
San Jose, CR 95120
46081985-1700
589.95
640K IBM PC, Tandy,
or compatible
16MMt 286
or faster recommended
VQA
supports Adill, SoundBlaster,
Ralland, Thunder Board

requires hard-disk drive

LINKS 386 Pra Access Software 4910 West Amelia Earhart Drive Sait Lake City, UT 84116 (800) 800-4880 SS9.95 2MB IBM PC, Tandy, or compatible requires 16MHz 386SX or faster SVGA

Microsoft Corp.

1 Microsoft Way
Redmond, WA 98052-6399
(206) 936-7022
S64.95
2M6 IBM PC, Tandy,
or compatible
20MHz 385SX
or faster recommended
requires Windows 3.0 or later
SVGA

PGA Tour for Windows Electronic Arts 1450 Fashion Island 8lvd. San Mateo, CA 94404 (415) 571-771 559.95 2M8 IBM PC, Tandy, or compatible requires 12MHz 286 or faster requires Windows 3.0 or later VGA supports AdLib, SoundBlaster,

Roland, Thunder Soard requires hard-disk drive CHOOL'S OUT. IT'S VACATION TIME and the weather's right for swimming and baseball, hiking and skating, tanning and surfing, flying kites and everything else we do when the sun's hot and the light stays long. Sure, pienic-drenching summer showers may send you temporarily inside, and if you're really pushing yourself, you'll be laid up with more than one pulled muscle.

When you can't get out, you're a candidate for the summertime blues. They say there ain't no cure, but they're wrong. Computer games give you just the relief you need. When it rains on your parade, or hay fever's got you shut in, or you want some relief from the heat, flip the switch and turn on the PC.

The four games discussed here are perfect samples of summertime quick breaks: They'll entertain immediately, they don't demand much study, and they'll get you back outdoors faster than you can say "sumblock."

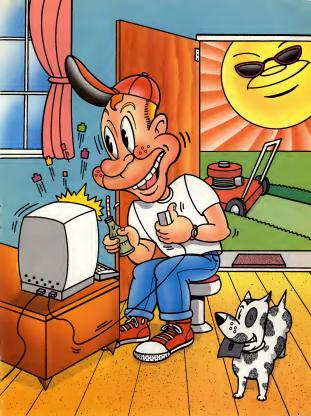
Two are new-and-improved versions of old favorites; you'll recognize the remaining pair from their arcade ancestry. Each game in this quartet is easy to play and difficult to master — and not one of

the manuals reads like War and Peace. Since play is swift and mostly furious, you won't have to stay up all night beating your opponent into submission, either. Win, lose, or draw, you can get in and get out fast—so you can get on with real summer stuff.

FROM RUSSIA, WITH LOVE

Your first sun-drenched software package comes from Russia, courtesy of Spectrum HoloByte: Super Tetris for Windows. This falling jigsaw puzzle may test your spatialThey say there
ain't no cure for
the summertime
blues, but they're
wrong — just turn
on your PC.
By Ed Ferrell

COOL GAMES FOR THE DOG DAYS



reasoning abilities, but that's not the point. It's almost more fun than a gamer can stand.

Spectrum imported this offering. as it did the original, from deep inside the former Soviet Union. The success of the original Tetris demanded this obligatory sequel, and designer Alexey Pajitnov rose to the challenge. Super Tetris for Windows preserves the game's The Moscow Circus pro addictive nature, but includes a save feature so you can get some

sleep. If you've never played Tetris, you're in for a treat. If you're an old hand, you've got some surprises in store. It's as maddening as the original, it plays just as simply. but it's a lot harder to win.

At the bottom of a pit is a pile of colored blocks (rubble), intermixed with open spaces. The rubble covers one of several vibrant graphics images of the Moscow Circus. As one of several differently shaped pieces falls down into the pit, you aim it at the rubble, shifting the solid blocks, sticks, and T shapes right or left, or rotating them for a fit into the empty spaces. When you manipulate the falling piece into a gap and create an unbroken line, the line disappears. The rubble moves up to fill the space. revealing another line of the picture. Sounds easy, doesn't it? There's a catch.

Because you can't always form a complete line, you'll often have to stack the shapes. The trick is to avoid stacking pieces too high, for they'll crowd the pit and shorten the distance (and time) you have to work with each shape. If things aren't going well, you just have to work faster.

So far, it's just Tetris on steroids. Super Tetris offers more, though, because you get bonus bombs when you eliminate a line of rubble or shapes. The more lines you vaporize at once, the more bombs you're awarded. You can use these bombs to blast holes in the rubble, destroy poorly stacked blocks, or blow gaps to fit the next falling piece.

To sweeten the deal, Pajitnov hid treasure in the rubble. as well. Hit these treasure blocks with bombs, and you're awarded extra pieces or you get to see entire lines

explode. Treasures that disappear as part of a completed line do nothing for your score or progress, though.

Once you've managed to knock away all the rubble, revealing the hidden picture, you start over, this time with a deeper pit, fewer pieces, and a brand-new picture. Tetris addiction is dangerous, something Spectrum has finally recognized. Super Tetris for Windows includes a timed-game option, so that you can police your playing time.



background for Super Tetris.



treasure blocks in Super Tetris for Windows.

two-player mode, you either play against an opponent on the same screen or work cooperatively toward the same objective. Ten progressively tougher levels increase the falling speed of the blocks; the more-difficult levels hold more treasure blocks and graphics to shoot for. Rousing Russian music is available for those with sound cards, providing a nice background for the game's circus theme. Because this version of Super Tetris runs under the Windows graphical user environment, you can play at a moment's notice: When you want to take a break from your Windows work, simply minimize your application, double-click on the Super Tetris icon, and play a round or two. Worked out your office stress? Then close the Super Tetris window and head back to your word processor or spreadsheet. You can even pause Super Tetris for Windows, open up another window for a dab of real work, then head back to the game - all without saving.

O'ER THE RAMPARTS WE HAIL

When you tire of playing with blocks and want something more like summertime entertainment - making castles in the sand - head for Electronic Arts' Rampart. Part puzzle, part pommel, this PC version of a popular arcade game is cleaner than a dirt-clod fight and almost as dangerous. Losing nothing in the translation, this is siege warfare, pure and simple. It beats watching waves wash away your sand castle any day.

In classic siege fashion, you pound the enemy into oblivion before he does the same to you. In "game-speak," though, you're trying to score a se-

> ries of strategic military victories and conquer an entire continent. Quickness and accuracy are vital. If you waste time pondering strategy, you'll only let the barbarians scale your castle walls. Fortunately, Rampart offers only three phases: destroy the enemy, rebuild castle walls, and do it all over again.

> To begin, select a home castle, then watch the computer build a solid stone wall around it. You receive a number of medieval-looking cannons,



In Super Tetris for Windows' leave the computer out of it in Rampart.

and must place them within your castle walls. Put them where you want, but heed the unfriendly ships waiting offshore. They're there for a reason.

Although you may have multiple guns, you aim them collectively by placing a keyboard-joystick, or mouse-controlled cross hair atop the target. The offshore ships, manwhile, aim back. They're also on the move, so you'll need to lead them with the aiming cross hair before you punch the fire button or key. A good shot sends the warships to Day Jones locker, but you may have to indulge in some overkill, because even damaged ships return. Fire, Keep at it mill you run out of cannobabla or time.

Forget any idea of rest after the battle. Like a good arrade machine that keeps yanking quarters from you pocket, Rampart won't give you pause to reflect or even each your breath. Those ships Cannons reduced part your castle wall to rubble, and you have only 30 seconds to repair the damage. To make things even more things even more himsy seem to repair the damage. To make things even more his you didn't sike the property of th

Replacement wall pieces — there are several shapes, some straight, some twisted — appear in the center of

your castle, and you drag and rotate them into place to rebuild the wall. Arrange these corner, straight, and T-shape pieces quickly to surround your castle completely. Defense is the first order of the day, and you won't win if you can't protect yourself.

After you've encircled the home castle, see whether you're quick enough to surround the other keeps in your kingdom, as well. You score points for grabbing additional territory, and all walled castles can contain gun emplacements, increasing your firenower.

All too soon, round 2 begins. Fick your targets carefully. Ships with red masts let loose with fiery shot that leaves permanent smoking holes in the ground — you can't build walls on them. Gary-colored ships unleash ground forces if they reach shore, so destroy them when you can. Once landed, these ground pieces crowd against your walls, blow holes in the stone, and shove their way inside. You've got to keep them at bay, too, because you can't rebuild walls atoop the enemy army, either.

But Rampart's best action is in multiplayer mode. Up to three players can have at it, provided you have keyboard, joystick, and mouse. Destroying a human opponent is a bigger thrill and, finash, a bigger challenge than beating the computer. Alliances form and crumble than beating the computer. Alliances form and crumble which you may be signed be signed by the metry and which you mery is shown the vanquished. Losing even brings up a graphics image of your demise; those sea dogs make you walk the player.

Rampart's a solid summer pick because its battles are quick campaigns. In many cases, especially early on, a round won't take more than a quarter hour. Like its arcade ancestor, Rampart on the PC is a frenetic few minutes of action, where you win or lose in moments, not hours and days. After all, who's got a long attention span in the summer?

READ ALL ABOUT IT

Every summer job should be this much fun. Paperboy II may let you pretend you're: a working stiff, but it won't make you a dime. Still, it's worth a turn if you can't get a real job in these tough economic times.

In this arcade offshoot, you take control of a hot BMX bike, avoid unfriendly subscribers, and race to make your deliveries. Fail in your duties and people cancel subscriptions faster than the news gets old.

Paperboy II is arcade simple, one of the big reasons it's a great tonic for the summertime blues. You maneaver the paperboy (or papergirl) character through a neighborhood, throwing papers left or right as you ride, scoring points for hitting subscribers' mailboxes or stoops, or, in a sop to delivery fantasies, sending a rolled-up daily through the window of anyone who deem't subscribe.

doesn't studistribe. Paperboy II's route isn't the usual suburban sprawl. There are theme houses with mummics and fire-breathing dragons to avoid, and ramps you can leap for some air time. Traffic's beary, too, so you need to watch where you're going or take to the sidewalk to complete you deliveries.

You also can play antisocial pranks for extra points. Hit the lawn sprinkler and spray a sunbather, toss one at the garbage collector, or knock Mr. Smithers into his pool. Hit the waiter

at the sidewalk cafe, and he dumps pasta on yuppie dimers. I won't even tell you what happens when you hit the backyard-barbecue chef. Along the way you re-arm with more papers retrieved from several randomly placed dumps. Danger's never far in Paperboy II, so be careful when you go for the extra papers.

You'll need your three lives — paperboys don't last forees, on know. If you don't complete your route you're both fired and humiliated in the offices of the Daily Bagle. Live through your first day, though, and you get a shot at bonus points in the BMX road rally, powering your dirt blie over jumps and avoiding obstaces. Finish a week's worth of work and you carn a promotion — at least, I think it's a promotion. The publisher gives you a longer route with more chances for mischief and more chances to wipe out.

Paperboy II's two-player mode makes you share turns, but at least it keeps you from getting lonely. Arcade-action games are rare on the PC these days — Nintendo and Sega seem to have stolen most of that thunder and put it



Whack the barbecue chef with a newspaper for mischief points in Paperboy II.

on the TV, not the PC. Paperboy II is a grand holdout, a good arcade game that translates well to the desktop. And there's nothing better for some quick fun than an arcade game. You'll be playing Paperboy II as soon as you can get it on your hard-disk drive.

PINBALL WIZARD "Ever since I was a young boy, I've

played the silver ball" Dynamix Pinball: complete with garish colors, flashpromises to return you to the great ing lights, bumpers, chutes, and paddles. days of pinners with Pinball, a

Windows-working game that blows away that solitaire you've been playing to kill time. Put Pinball on your Windows-equipped PC, and not only will you get a firstrate game, but you'll save tons of quarters, too. What better way to save up for school in the fall?

Pinball's attraction may be hard to understand for the video generation, but for those of us who grew up nudging the silver ball back into play, reveling in the flashing lights and buzzers and bells, or hurtling toward a recordbreaking score, pinball's got the character that too many on-screen games lack. Pinball on the PC translates that arcade feel to the screen with alarming ease. In fact, about the only thing it doesn't do is let you bang the side of the monitor.

Long on sound effects and options, Dynamix's Pinball will surprise you with its realistic action. In multiplayer mode, you can keep a crowd around your screen all day when your softball game's rained out.

Garish colors prevailed on the old metal-legged machines, and the same goes here. The playing field offers bumpers, chutes, and paddles just like its ancestors.



Vary ball speed to your liking and bounce, spin, and carom your way to a high score.

Although I saw only a work in progress, the designers even promise a "nudge" key to let you digitally shove this virtual-reality version of pinball. (You just can't play pinball without the possibility of a tilt, I suppose.) For an even wilder kind of pinball, select the String feature from the Options menu. The ball plays as if it's connected to the paddle with a rubber band. Plans for the final

version also include a warped-gravity game. Like Super Tetris for Windows, Pinball works under

the graphical interface, so it's an easy-in/easy-out procedure to quit real work and run through a round of silver balls. If you think your PC's too good for this old stalwart, think again. You'll be surprised by how much fun Pinball brings to those long summer nights.

SEE YOU IN SEPTEMBER

Four cures for the summertime blues, these games are easy to learn and quick to finish. Once Labor Day passes and the leaves begin to fall, you'll spend more time inside; that's the season for cooking up a pot of chili and a 12-hour war-gaming marathon. For the next couple of months, though, put one of these on your PC to keep up your game-playing prowess without missing any of the really important summer activities - like the beach at Kitty Hawk, the roller coaster at Six Flags Over Texas, or the family vacation to Yellowstone.

Of course, you could always drag out a long, long, long extension cord, and sit in the shade somewhere

PRODUCT INFORMATION

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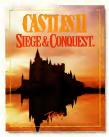
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TAKE 2

PLAY IT AGAIN

... and again. We're swimming in series and sequels — but when game players latch onto something, game publishers are loath to let go. Sales figures talk, and developers listen.

THERE'S NO SUCH THING AS AN ORIGINAL GAME-They've all been done before. You can fill a dumpster with software titles that depend on horizonal scrolling, jumping characters, and rabid opponents. Dozens of fantay roleplying games, for example, owe ancetty, if not allegiance, to the original paper-and-pencil Dungeons and Dragons, which, in turn, solic content and quests from fantays noechsts. Spot a popular piece of software, glance around the corner, and worke ware for find initations and dones.

So why do electronic-entertainment publishers go out of their way to push the process even further with sequels and second chances? Why do we keep getting Ultima X, Where in the X Is Carmen Sandieso?, SimX, and X'liis?

It's money, guaranteed sales, reduced risk, happy customers, and money — pretty much in that order. Software publishers, like any creative business types, like to make what sells and sell what they make.

They're no different from movie-studio moguls who crank out summer sequels to popular hits of the past, or even book publishers, who itch at the thought of another novel from a best-selfing writer. When gamers latch onto something, game publishers are loath to let go. But when publishers dip into the same well, will gamers want another drink?

By Gregg Keizer



MICROCOMPUTER METHUSELAHS

You don't have to look too hard or too far to spot the sequels in the software business - just look for a Roman numeral at the end of a title. Several of these series go back almost to the dawn of personal computing; some literally began the computer-game industry. Sierra's King's Quest, for instance, is ten vears old, and started on the Apple II, a machine that has since faded as a gaming powerhouse, Micro-Prose's F-15 Strike Eagle, now ready for its third incarnation, virtually founded the company. And Broderbund's Where in the World Is Carmen Sandiego? series rescued the firm from its one-trick-pony days as publisher of The Print Shop.

But games with "legs" — the ability to sell over an extended period — are the exception rather than the rule in PC entertainment. Most itles, if they make it to the restail shelves in any numbers at all, don't say there long. Software titles may not be as disposable as paperback books, but they can cycle through the selling process just as fast.

It's no surprise, then, that when publishers stumble across a formula that works, or an imaginary world that strikes a chord in its players, they start recycling names and adding numbers. By virtue of their long, long lives, these game series typically hog the all-time best-seller charts; by virtue of their built-in audeince, they usually top the monthly charts, too.

A glance at just some of these series shows you how pervasive sequels are; the list reads like computer entertainment's version of Who's Who: • Wing Commander. Although a

recent addition to the series ranks, Wing Commander has generated not only a direct sequel, but also a slew of add-on disks that extend the adventure. It also has broadened Origin's software base beyond Ultima, and has been a major contributor to that publisher's growth.

· Ultima. Now in its seventh incar-

nation, Ultima has continued to push the technology envelope on the PC. The decision to move this roleplaying giant from its Apple II birthplace to the then-unproved PC may have seemed risky years ago, but in

place to the then-unproved PC may have seemed risky years ago, but in hindsight it was one of the savviest moves of the decade. • Where in the World Is Carmen

Sandiego? More a series than a collection of sequels. Carmen has gone around the world and across the country, invaded the continent. and gone back in time twice. Only a series as strong as Carmen could have spawned not only books and board games, but a PBS TV show, too. This five-part series is easily the best selling "edutainment" title ever. · Tetris. This game breaks most of the rules for sequels and series. It's not a simulator that depends on hardware advances for its next version, nor is it a plot-driven adventure with an open story line and likable characters. Still, this addictive puzzle arcade game has given birth to a quartet of similar games: Welltris, Faces, Wordtris, and Super Tetris. None has shared the wild success of the original, but Spectrum HoloByte keeps trying.

John Madden Football. Sports games rarely show up on sequel lists, perhaps because so many are tagged to real-life celebrities whose charms can vanish almost overnight. John Madden Football, now in its second flight simulators — it upped the ante in graphics and features as the hardware became more powerful.

• Leisure Suit Larry. One of several series from Sierra (others come from the Quest lineup — King's Quest, SpaceQuest, PoliceQuest, and Quest SpaceQuest, PoliceQuest, and puest for Golry). Larry Laffer has appeared in four titles so far. Just as the James Bond movie series keeps putting 007 in still more exotic circumstances, Leisure Suit Larry finds himself in ver-more-erotic loales and plot lines.

Name almost any other successful game and it's likely to be a sequel or part of a series, or at least offer disks to extend its life span. PGA Tour Golf, LINKS, Lemmings, Reader Rabbit, Math Blaster, HardBall, Test Drive, Might and Magic, Eye of the Beholder, and Microsoft Flight Simulator are but a handful of titles that have seen a rebirth two, three, even four or more times. We're swimuning in series and sequels.

DOLLARS AND SENSE

Where does the push for sequels come from — paleyers or publishers? Some software publishers would like to claim that the vocal demands of players force them into the sequel business. Take that with a grain of salt, Game players do voice opinions, of course, but those opinions are expressed in dollars, not words. Sales figures talk in the electronic-entertainment industry, and when they talk loudly, publishers listen.

"A quality game today costs a million dollars to build," says Ken Williams, president of Sierra. "No one's willing to put that kind of money into something that's uncertain. You have to have a proven audience."

According to Williams' approach, only those games that have sold well before can be guaranteed to do well in the future. And that guarantee is essential to good business planning. "Id be perfectly happy to market the first in a new series," claims Williams. "But you just can't estimate how many copies you'll sell. You can't put a million dollars into something that might sell only 10,000 copies. You need to have a unit-sales estimate how help the properties of the properties

Richard Garriot, the creator of Origin's Ultima series, echoes some of the same opinions. "[Secuels] are reliable and predictable sellers." he says. "Once you've found a presentation that people enjoy, that makes mones, you shouldn't abandon those buyers. Once you've developed expertise in a market area, you're better suited in that market area than others are. It makes rood fiscal sense."

Both Williams and Garriot liken sequels in computer games to those in film. The similarities are intriguing, especially on the money side. "Do you think they would have given \$60 million to Tim Burten for Batman Returns unless he'd done Batman?" Williams asks rhetorically. "The decision to do game sequels] has more to do with the ability to raise money for a product than anything else."

Sierra may be one of the kings of sequels and series - the company's core games are all long-lived lines with three or more episodes on their résumés - but other publishers look at sequels as cash cows, too, "You want to build on some sort of success," says John Baker, vice president for product development at Broderbund, makers of The Print Shop and Carmen Sandiego franchises. "In a sense you're talking about money," he admits. "We're doing the same thing as people who do movies. We want to build on a successful project, and to expand the audience."

Because sequels are relatively safe bets — if anything in game development and publishing can be a safe bet — recycled titles, characters, and plot lines continue to appear But expected revenues are only part of the reason today's electronic-entertainment makers turn to sequels and series.

AMORTIZATION

If game development is so expensive, it makes sense to spread that cost around as much as possible. Some publishers are doing just that, and in the process either extending their existing games or planning sequels even before the first version hits the sheves.

"Game design is a very tricky thing," says John Baker of Broderbund. "People spend a lot of time to make a game work, so when you accomplish that, you (should) go in and build on that game play. In a sequel, you don't have to worry about how the game works, (which makes) the job a lot easier."

Amortizing development costs across several products is smart, especially when games incorporate multimedia elements such as professional actors, musical scores, and video. Even non-multimedia titles benefit from shared costs, though, such as when a flight-simulator "engine" is reused in another program, or an interface design appears in an entire wave of games. The less reinvention the better, say many developers and publishers.

A few publishers have even invested in million-dollar development systems to create their current line of products. To recoup that investment, more games for those lines must be created, marketed, and sold, cementing sequels even more tightly into the development vete.

The success of series and sequels convinces some publishers that every title should have sequel and/or series potential. Ken Williams of Sierra claims that every publisher should keep that thought in mind, while Broderbund's Baker says that "small companies have got to be thinking, 'Can we capitalize on this momentum?' whenever they launch a new title. We certainly think about this when we do things." He admits, though, that "we like to experiment, too."

CREATIVE CONSTRAINTS

Experimentation, or rather lack of it, is at the core of players' criticism of sequels and series. That criticism generally takes two tacks: that too many sequels are just more of the same, and that the emphasis on series squeezes out original, first-time titles.

The first may be as much the fault of game players as game designers, at least according to Eddie Dombrower of Mirage Graphics, the development team that created Earl Weaver Baseball I and Earl Weaver Baseball II: "Because you rarely sell a sequel to a new buyer, you can't deviate too much from their expected interface experience, or from the

IN THE YEAR 1999

Old james never die, nor de they fade away. They just add another number to their names. Seven years from one, you'll see some familiar titles on the on-line distribution networks that will replace retail software stores and nest mail-order houses. Although they may share only a name with what you play now, they'll still be sought by hardes of players cager for their next fix of Lerry Leffer, Carnen Sandiego, or Lord British. Gaze with us into <u>PCGamss</u>' crystal hall for a peek at the future of sexuels and service.

· ULTIMA XII. After your escape from Britannia in Ultima XI, you may have thought the instancy was dead. Werey, Ultima XII. The Land of Lebshyists turner the creare into utter resides and transports you to present-day Washington, D.C., a fantastic was of evil mentary neglicians and slinger of copress trainformer. Very quest is simple: rescue the Capital from the clutches of the reaming PACs and give government back to the people. Good luck.

 JUST WHERE IS CARMEN SANDIEGO? Carmen tired of the constant chase around the globe and through the galaxy Isuch as in Where in the Whole Wide Golidarned Universe Is Carmen Sandiego?) and hung up her crime cape. In this latest edutainment adventure, you must find Carmen and bring her back to Broderbund. Remember, the

company's depending on you.

- FALCON 5.2. The real F-16 may be nearing forced retirement, but jet jockeys at the keyboard can still fly against commiss both real and imagined. Complete with helmet and a heads-up-display monitor, this deluxe edition lets you fly missions against the

Japanese (re-creating the Battle of Sony) and the drug lords of Detroit.

• ESPTRIS. The toughest Tetris clone yet, ESPTris features invisible pieces you

stack for points.

• LEISURE SUIT LARRY IX. Larry's in jail, thanks to countless sexual-harassment suits. Full of double entendres and snickering jailhouse humor, this game turns the tables on Larry. Can he find off William "Bubba" Coletrain and stay alive until parole?

— G.K.

syle and type of results of the game. Still, you can't simply repeat the [first] game. You really have to walk the line between keeping that old feel and putting in new features. It's a tough decision."

But publishers push for more of the same too, often purposefully, "Hits are rare in any industry, so when you get one, treat it with respect," says Ken Williams. "Once you figure out what [the buyers] want, give them more of the same."

In fact, Williams considers those who would "fix" a successful game the most dangerous of all designers. Thave an intense belief in sudying the original formula" of a series, he says, adding that one of his toughest tasks is "fighting new people on the teether and greater. What kills a series is when someone tries to series is when someone tries to series is when someone tries the tetter and greater. What kills a series is when someone tries to make it better when better means different.

"Series are what keep you going between the really innovative designs," admits Andy Hollis, MicroProse's simulations group producer, and the man in charge of F-15 Strike Eagle.

But are those series and all their sequels so big, so important, to a publisher's future that they crowd out anything new? For an answer, just stroll down the aisle of your local software store, or glance at game heys-seller lists. Of the hits of last year, for instance, Lemmings stands almost alone as a fire-time game; in fact, scerral people interviewed for this feature mentioned Lemmings specifically as an example of a successful mitial effort. (But what's one of the first things Lemmings' publisher did? Capitalize on its success by offering an add-on disk, and the successful miting the successful miting the successful miting and the successful miting the suc

series and sequels have become.

Are we in danger of drowning in sequels? "Absolutely," says Richard Garriot, creator of the Ultima series.
"I think many of them are overused."

Eddie Dombrower, the Mirage Graphics designer, agrees: "I think (the trend toward series] is a little bit dangerous — very dangerous when you just use the title and pump out the product. It's almost inevitable that we'll see 70 to 80 percent of the games as either sequels or part of a series. It's a foregone conclusion."

DIFFERENT BUSINESS

Comparisons between movie and game sequels come naturally, if only because both often peg their newest with a number: Rocky V, Ultima VII, Aliens 3, Magic Candle II.

The comparison doesn't hold up under scrutiny. Hollywood's sequels are concentrated in the summer. while game sequels are released throughout the year (Although that's as much owing to late arrivals as to original scheduling.) Seconds and thirds at the movies Farely better the original at either the box office or among the critics; exceptions such as Alleus and Terminator 2 do exist, but they be outunibred by bombs such as Metabalis II and Predator 2.

Most PC-game sequels, though, are much better productions than their ancestors. Credit changing computer technology for that; Ultima VII, for instance, is a much more compelling story than the first Ultima mainly because its graphics, sound, and animation are flashier and more realistic.

"We're working in a medium where the technology is changing at a rapid rate," notes Richard Garriot. 'And with an evolving technology like this, each sequel can be a profoundly different incarnation of the original. 'That's why Ultima, at least for me, is really a unique product each time I do it."

Because the technology continues to evolve — better sound, better graphics, CD-ROM, and on the distant horizon, virtual reality-style gear — sequels can effectively tell the same "story" again and again, each time presenting what players see as something totally new. Flight simulators excel at such recycling by improving the flight-dynamics modeling the polygon-graphics shading, and the complexity of the aircraft.

Sequels aren't going away, that's for sure: "Sequels have a tremendous advantage," says Eddie Dombrower. "That advantage puts pressure on both the publisher and the developer to make sequels."

"No one wants to do a sequel, but you don't have a choice," adds Ken Williams.

The trend toward more sequels and fewer first-time games is evident everywhere. Business-planning pressures, a more-assured rate of return, and a dedicated, even fanatical, audience mean that sequels and series will become even more entrenched in electronic entertainment.

WHERE'S PART 2?

Contrary to what you might think by the time you get to the and of this article, not every gene comes in splintered parts spread across years. In fact, there are games that have just one life, not nine. Among those are games that merit a second chance, not because they were weak to begin with, but because they were so good that gamers deserve another shot.

Here are three titles we'd like to see carry a Roman numeral someday; CHUILZATION, Sti Meler took us from patterel neared life to the beepinnings of interstellar empires, but then, like a good serialist, stopped. Civilization II should open up the galaxy to empire builders, budding diplomats, and entreprenental traders. PABANICE OF POMEY. This Chris Cervendre-designed classics, now saidy outdated, needs a faceliff and a transfusion of current events. Balance of Power II should show us how conflicts in the 1990s will be decided by economic power, no military strength or conflicts in the 1990s will be decided by economic power, no military strength or military strength.

KIOPIX. Broderbund's award-winning paint program for kids, where explosions erase the screen and stamped letters talk, begs for some sequels. KidLix (music), KidHax lwriting), and KidMax (meth) should follow in quick succession.

The evil lord Grimnoth demands the Crown of Alonia. Fail to deliver the crown, and the world faces certain destruction.



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The Set of Fund

REMEMBER HOW IT FELT TO DRAW THE IDEAL RACE CAR OR BEAT OUT YOUR FIRST REAL DRUM ROLL? RECAPTURE THAT EXPERIENCE TODAY — RIGHT ON YOUR HOME PC.

un once came in a 16-color Crayola box, not on a 256-color VCA screen. Kids' entertainment used to march to the beat of a wooden spoon banging on a pot, not to the digitized rumble of a reved-up CD-ROM drive. But times change

Children and adults still need to play creatively, but computers have altered the amusement landscape dramatically. Software publishers may not have figured out how to re-create the squishy feeling of fingerpaints or the cool touch of a brass instrument, but they have

managed to reproduce the excitement of finishing an artistic project. If you can remember how it felt to draw the ideal race car or beat out your first real drum roll, you'll be glad to know that you and your kids — can capture that feeling again with several PC packages.

You may not see these four programs ranked under the Games banner at your local computer store, but that doesn't ulean you can't count them as software toys. To kids, who revel in the fun they have with paints, markers, xylophones, or tuned pianos. PC titles

like these aren't educational or creative. They're just plain fun.

MOVE OVER, NINTENDO
KidPix is the most
entertaining graphics
program on the market.
This Broderband package
mixes ingenious painting
tools with amusing sound
effects, creating a friendly
graphics environment
that mixes kids or perminent. The interfaces
ary tofollow, so children
hardly need to consult
the manual

KidPix features paintbrushes, rubber stamps, and special effects that will keep you giggling for

By Heidi E. H. Aycock . Illustration by Richard Anderson



heurs. Choose the paintbrish tool and look at the bottom of the screen. Some of the 16 different brushes there simply draw patterns — trailing bubbles or the alphabet — while others perform stunts, such as dripping paint or sprouting a forest

of trees. After you've tried the brushes, check out the antics of the mixer tools. The broken-glass tool shatters the image you've created, while the splash tool splatters your painting with blobs of color. Twelve other tools twist, warp, and distort your masterpiece even further. KidPix even makes your mistakes fun. You can use the typical square eraser, which clears the screen as you rub away the error, but for some fireworks try the dynamite that explodes your picture. KidPix features ten wacky erasers.

tures ten wacky crasers. KidPix also features rubber stamps, a digital duplicate of the colorful stickers kids collect. Pick a stamp from the menu—all the alphabet's here, as is a set of 48 pictures that imprint everything from a lightning bolt to a whale—and click the mouse. By holding down the control and shift keys, you can even double and triple he size of the stamp.

Rounding out the package are several easyto-use editing tools. To cut, copy, or paste an image, you just click on the move tool, thraw a rectangle around a portion of your picture, and drag it somewhere else. If you want to reverse the last thing you did, click on the "undo gru."

KidPix is a visual blast. Pictures take shape easily and shift shapes jast as simply. If you have a compatible sound card, KidPix is just as emertaining for the ears as it is for the eyes. Each tool has its own sound effect. When you fill a shape with color, you hear the gloppy sound of paint pouring into a bucket. When you click on the undo yu, he says, "Oh on" and "Oops." And as a special treat for young children, KidPix pronounces the name of the letter they choose from the alphabet stamps.

These fooks and sound effects combine to create more than just a nice graphics package. KidPix encourages creativity and experimentation. The stamps are especially good at helping kids overcome lear of the blank page. They don't even need to think about beginning — they just choose a stamp and click on the screen. Suddenly the page isn't empty anymore. Choose a brush and add a few more images to the screen, mix up the page with a checkerboard background, fill some of the objects with different colors. After a few minutes, the screen is packed with shapes, color and texture. What started with a simple stamp becomes an abstract masterpiece.

The beauty of KidPix is that anything you do any brush you use, any color you apply, any stamp you try — adds to



KidPix's rubber stamps make it easy to create a masterpiece from a blank page.

the on-screen art project. You can't make a mistake. The program even includes those erasers because they change the picture, and not because they correct errors. The process becomes as rewarding as the outcome.

KidPix doesn't ask whether you can draw the perfect

race car. Instead, it asks what you can do with a picture once you've drawn it. This software program gently gets children to consider the image, not its limits. Freedom like this is hard to find — and fun to apply.

SERIOUS ENTERTAINMENT

While KidPix frees children's creative instincts, Windows Draw gives them more-sophisticated tools to develop those instincts. KidPix offers ease of use and an entertaining presentation to get kids involved in a graphics project, but when they're ready to do some serious drawing, Micrografx's Windows Draw is the best choice going. Windows Draws fun may be more sedate, but it's still an absorbing engrience. The tools are as powerful as they are easy to use. The Windows interface is well designed, making it simple to learn as you explore. You won't hear any clever sound effects, but you will produce some fantastic pictures.

To start, click on the pencil tool and choose a drawing object from the ribbon at the top of the screen. Not'll find ellipses, rectangles, rounded rectangles, ares, polygons, Berier curves, and straight lines — all the options you'd expect from a full-featured graphics package for the office. Besides shape tools, the ribbon also sports a button that takes you to a menu where you can hange the width and color of a line. Here you'll also find 14 different line ends, such as arrowheads, squares, and circles. The same ribbon guides you to the full menu, where you choose and edit textures, colors, and eradient effects.

The pie-chart tool is an unexpected treat; it lets you draw a circle and break it up into pieces, each an independent object, ready for the same kind of editing you can perform on any other object. This tool is ideal for presentations, whether for the home office or the classroom.

With a few shapes on screen, try some other tricks. Each tool lets you manipulate a shape in different shape in different shape in different shape in dark and the result of the shape is different shape is different shape is different shape is different shape in the stape in th

Besides these drawing and editing tools, a simple but powerful text tool lets you add the power of the pen to your pictures. A view tool magnifies your work so that you can fine-tune your masterpiece.

Under the menus you'll find Windows standbys such as Cut, Copy, and Puste, as well as options for complicated chores. The Change menu is the most interesting, because it sports commands to wrap text around curves, align shapes, or transform letters into objects you can twist and fill with color.

But Window Draw's most impressive Change menu command is Bland. Choose two shapes on your page—a blue star and a red triangle, for example—then selects Blend and the number of steps you want the program to use to go from one object to the other. Windows Draw automatically inserts the images that would logically occur between the two shapes you selected. In our case, the program draws three different shapes from deep blue, to purple, to marroon, each one with fewer angles until the five-pointed star becomes a three-pointed triangle.

Windows Draw is particularly well suited for teenagers who might balk at using something as whimsical as . KidPix. They can explore their creative ideas without the messy overhead of art supplies, and without the frustration of crumpled false starts. And because Windows Draw can do double duty as a home-office or small-business graphics program, it's a bargain for any household computer. Older kids might laugh at KidPix, but they'll see Windows Draw as the powerful tool it is.

AN EXCELLENT ADVENTURE If you think music history comes

from dusty classrooms with musical staffs etched on the chalkboard, think again. Composer

Quest, a CD-ROM disc from Dr. T's Music Software, takes you on an entertaining journey through musical time. Composer Quest covers seven historical periods of classical music and three periods of jazz. As you travel through time, you read biographies of composers, listen to short clips of their notable works, and learn about contemporary achievements in art, science, and philosophy.

Much of Composer Quest's information comes from clearly written, though dry, passages that sound as though they've been drawn from textbooks and encyclopedias. A relevant picture accompanies each block of text. When you read about Haydn, for example, you see his face staring back at you, From the composer-biography screen, you can access a representative list of his works, and, best of all, hear the music. If you're reading about Bach in the Late Baroque cra, you can click on Taccata and Figue in D Mism and hear the dassic? Planton of the Open movie themse.

To get an even better iden of the times in which each composer worked, dick on the Aris in History of Historic En buttons. Aris in History of Historic En buttons. Aris in History prings up a passage about the nacivities of painters, sculptors, and architects. If you are reading about Bach, for example, this button brings Up an article about Highls painter and printmasker William Hogarth and German architect Johann Balathasar Neumann. As abways, the text is followed by a picture on one of the pieces produced by an artist of the period. The Historic En button reports on other events. In Back case, you'd read about the Age of Enlightenment, Descartes, Vollarie, and Roussessian.

You can approach Composer Quest in two ways. In *Learn* mode, you move from musical period to musical period at your own pace. Play *Game* mode, and you'll race against the clock as you learn some musical history.

In Learn mode, you gauge your progress by taking quizzes on the musical periods you've read about. Resembling reading-comprehension questions, these multiple-choice tests cover music, art, science, and philosophy. In Play mode, you hear part of a musical piece; your job is to figure



With the tools in Windows Draw, older kids can create professional-quality art.

out which composer wrote it. You win by traveling ha at time machine to the period of the correct composer, effektion of the correct composer, effektion of the correct composer, of the more of the other correct composer of the three correct composer of the correct to the correct composer of the correct to the correct correct correct correct set the time machine to travel to a date between 1861 and 1899 — the Romantic Period. Find Richard Sensus and click on his picture, and a bell signals that you've picked the right

composer. But what's the real title of the piece? There's no 2001: A Space Odyssey listed; instead, you see Thus Spake Zarathustra. Click on it, and another bell signals another correct choice. You win the round.

The game doesn't rack up points, but it does record how long you spend finding the correct composer. Even when you have to guess at the answer, you'll enjoy roaming around in the time machine, learning as you explore.

Composer Quest is a great introduction to music history, but, like a tasty first course, it merely whets your appetite. A good sequel to this game would offer more links among readings and more freedom to explore. As an appetizer, though, Composer Quest is an entertaining journey into a world of beautiful music.

FIVE-FINGER FLUENCY

For most kids, practicing on the piano qualifies as torture, not fun, Many adults, though, look beak at those forgotten lessons as lost opportunities. NotePlay may help you rediscover those opportunities, and help older children find them for the first time. Part of the Interludes series of tutorials from Ibis Software, this program teaches you to sight-read music.

Through 36 drills, you learn to identify notes on a grand staff. Once you've finished, you'll be ready for almost any sheet music. The program accepts input from the mouse, the keyboard, or a MIDI keyboard. Don't bother with he mouse — it's practically impossible to use and teaches you very little. A better bet is the keyboard: All east you'll ext proficient at reading music.

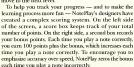
Unfortunately, the keyboard doesn't help much in teaching you to play music, for the latter half of the lessons demand such complex note combinations that you won't be able to complete them with the keyboard. A MIDI keyboard is the ideal tool for NotePlay. Not only will you learn to read notes, but you'll also learn proport fingering.

Although NotePlay is nothing more than a drill-and-practice package, it hides within the guise of a game. The program displays four notes on a



Kids can explore music and art history with Composer Quest.

sgand lastf (the familiar two-love) saff works reched eff on the top and a works reched eff on the top and solic clef on the boatom). You read the notes and play them on your injustice to the cleft device of choice. Each time you play the four notes correctly, four mer bar fills to show how much time has elaborable bloom beautiful to show how much time has elaborable bloom beautiful to your progress. If you fill the progress har before the timer bar is full, you move to the next level.



Even though the scoring system is complex, NotePlay's interface is clear and simple. You control the whole game through five menus. The Options menu lets you begin the lessons at any lovel, so if you'r new to sight-reading, you can begin at the Just Stanting level, which introduces a few notes at a time. If you're comfortable with ending music, though, try the Nat Bad at All level, which introduces new keys and reinforces woo-handed playing. Feeling gutsy? Try the Fattaso level, where lesson 32 challenges, you to play some "triads with bluesy medody." Other menus offer Help and Scors. Function keys activate game controls — particularly helpful is F3, which lets



Learning the grand staff wins the game in NotePlay.

you restart a level. The spacebar pauses a game, giving you a chance to catch your breath after your first adventure in two-handed exercises or triads with melodies.

NotePlay wraps an ordinarily tedious activity in the trappings of a game. Earning points seems to make the medicine go down much more easily. NotePlay's designers have carefully balanced the competitive aspect of the game with the educational

aspect. If you've always wanted to learn to play the piano, but skipped outside instead, you'll see what you were missing when you decided to play baseball instead of Bach.

ARE WE HAVING FUN YET?

Achievement may be measured most easily by points, but fin is another matter altogether. Fin is measured by how quickly time passes. Fin is measured by how appry you are with the results of your play—whether you spent five minutes or five hours. Children know this better than anyone. They become absorbed in a fingerpanting project and somehow sits lift for more than a few moments. They sing along with their teachers, and before they know it, the bell's rung.

At home, parents can reproduce these entertaining, creative activities for their children and for themselves. Besides mixing up a batch of homemade play dough or pulling out the pots and pans for a makeshift drun, em moms and dads can switch on the computer. It may not sound as romantic as fingerpaints and toy druns the storkare won't stain the carpet or give you a headache. It's the torbox of the '90s. U

PRODUCT INFORMATION

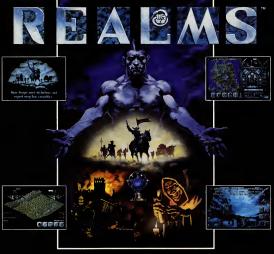
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PCG REVIEWS

THE NEXT PRESIDENT

By Gregg Keizer

Thomas Jefferson would have loved this game. The third President was a radical among radicals, a man who once said "a little rebellion now and then is a good thing, and as necessary in the political world as storms in the physical." Unlike some of his contempories, Jefferson believed that citizens were smart enough to make intelligent choices.

The Next President thinks so, too. This innovative on-line game — found only on Prodigy — lest thousands of computer owners participate in a mock presidential campaign. Players cast votes, set candidates positions, and advise politicos on pop-up crises throughout a monthslong process from caucuses and primaries in Iowa and New Hampshire to the O'aul Office. The names may be unfamiliar — The Next President doesn't use real candidates — but the result is a stunning adventure that almost anyone will find entrancing.

Pick Your Political Poison

Eight candidates — four Republican, four Democrat — give you plenty from which to pick. There's an incumbent Vice President, a state governor, several Senators, a businessman, a former general, and an academic among the personalities. Politically correct, The Next President offers both female and minority candidates, unlike the current real-world race.

Each candidate has opinions on eight political issues. Ranging from abortion rights to reducing American military presence in Europe, these issues are crucial to game play, because a candidate's position decides, in



DEMOCRATIC CANDIDATES

NEXT J BHCK | MENUJ PH J H J J J J J H L L P J E X J T .

Capitales in Product's The Next President aren't real, but they have real-world opinions.

large part, the number of votes he or she receives. As campaign manager, you can sway your candidate's stances by recommending changes.

Weekly updates to the world of The Next President come in the form of print and television news you read. And each week another incident appears to which candidates must respond. Like a good soap opera, The Next President's script tosses in juicy gossip, candidate gaffes, and, early on, even an assassination attempt.

Charts and graphs show how candidates fare in elections, and where they and the players stand on the issues. Graphics images are clear and easy to follow, and give the game a pseudoscientific look.

Majority Rules

What really sets this game apart, though, is its multiplayer approach. Rather than wrest control of a party from a computerized competitor, in The Next President you battle it out with hundreds, perhaps thousands, of breathing opponents. This is one of the first on-line "groupware" games that really works.

Majority rules in democracy, and in The Next President, too. In our play during the primary season, candidates typically accepted advice only from the largest block of managers. Ditto for the weekly crisis, as candidates took the advice of the majority on such instant issues as wan control.

States' primaries were even tied to players' responses. Candidates won or lost an election based on how closely their stands matched those of the Prodiev players living in that state.

The Next President crunches the numbers, but Prodigy makes possible the rapid shifts of opinion that are crucial to a realistic American political game. Each week the game recalculates candidate positions, and handles any elections that may have taken

place. Although you can play by connecting just once a week, The Next President is more fun if you spend time reading and sending messages to others. Prodigy has set aside parts of its message area for conversations about The Next President. Glance at some of the messages - there were hundreds by press time - and you'll find managers sticking up for their candidates, calling for on-line debates, and wondering how anyone, anyone, could support a candidate other than theirs. All these elements make The Next President as much a social activity as a computer game.

White House or Bust

Although The Next President is played in real time — primaries took place on line on the same days voters went to the polls — you can join in any time. As you read this, though, the primaries are over and the party convenions only weeks away. You may have missed part of the fun, but there's still plenty to come. (Unformately, the convention and general-election scenarios hadn't yet been written when this went to press.)

Expect an open-ended convention, at least among the Democrats, because in late April the four were nearly deadlocked in delegates, contrary to the real election. Prodigy promises that players will be able to participate in the convention draw that be bulletin-board message area.

After the conventions, the final ten to 12 weeks will focus on weekly national "town meetings," where questions from players will be integrated into prescripted conversations with the presidential and vice-presidential candidates. And come Election Day, you'll be able to watch the returns and see who wins.

This multiplayer game lets you play a real part in presidential politics, rather than just reading the newspapers, watching television sound bies, and casting a ballot. The Next President is something out of Jefferson's dreams — an electorate educated in the process, enlightened about the choices, and informed on the issues. And to beat all that, it's more fun than watching Clinton squirm, Bush pontificate, and Perot shout. This is how elections really should be.

Prodigy, 445 Hamilton Ave., White Plains, NY 10601, 1860) 776-3428, IBM PC, Tandy, or compatible; 542K RAM; DOS 2.0 w later; Hercules, CGA, EGA, Tandy 16-color; requires 1200bps or faster Hayes-compatible modern, mouse optional; \$49.95 sign-up kit, \$12.95/month flat-fee charge

UNCHARTED WATERS

By Lafe Low

It was a time when the world was flat — when bold explorers packed their ships and set off over the horizon in search of distant lands and rich rewards in spices and gold. Ah, the Age of Discovery.

It's also the time of Koe's Uncharted Waters, a game of trade, discovery, and fame in the world of Magellan, Vasco da Gama, and Christopher Columbus. More a role-playing game than a simulation, this package is nicely endless in scope, but it's missing the action that would keep everybody happy. If your game-playing tastes run more to maybem and machismo, you more to maybem and machismo, you have the content with charter and the content with charter at the content with the content with the charter at the c

Ready All Sails

You sail under the flag of Fortugal, that almost forgotten nation whose navigators rounded Africa and reached India from Europe, Before you set off on your first voyage, though, you must create your character. Actually, it's more like modifying your character, because the process is a role-playing-style distribution of extra points toward traits like courage, judgment, strength, and intelligence.

Experience counts in Uncharted Waters: Each time you sail into port, your saling esperience increase, and, after battles, your war experience jumps. Both earn you more respect from your crew and make it easier for you to recruit new mates. Knowing your limitations during the first few your for the control of the c

Other matters you need to tend to in port before casting off include provisioning your ship, buying trade goods, selling cargo for a quick profit, and outfitting your ship(s) with the necessary equipment, such as sectant and telescope. Once you've stashed away some gold, you can also improve your fleet by purchasing new ships or effitting your flagship. You can estimate the pub looking for new recruits, misde information (the bartender is a good source), or even a morale-boosting round of grog for the crew.

Although these at-home activities set the foundation for your voyage, it's the stuff of seafaring — sailing and doing battle on the high seas — that makes Uncharted Waters such a lure for the chair-bound explorer.

Sailing is actually easy. Once you cast off, your flagship appears on a small map of the sea. You control your course by changing direction on a miniature compass rose. Mind the wind and currents, though, because they can either help or hinder you.

It's best to follow the coastline at inst. This gives you a feel for the area, and won't put you too far from other ports of call. On your first few coyages, you'll have only your flagship in which to store food. Packed to the gunwales, there's still enough for only a few weeks. Ports appear on the shoreline as icons. Sailing right in and selecting Dismbark drops anchor.

When another ship appears on screen, move in close and you can bring it to battle. Keep an eye on the time of day — represented by a dial showing the rising and setting of the sun and the moon — since 16th-century naval battles had to be wrapped up by dark. Cetting into perfect position to fire



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Combat in Uncharted Waters gives you the admiral's chair.

your cannon is not only difficult, it doesn't even guarantee a perfect. Wor seamanship's truly tested here. Try to put your ship so that you're upwind of the enemy; if you manere well, you'll be able to take on more heavily armed ships. By sailing back and forth across the path of an oncoming galleon, for instance, you'll be able to pepper it with cannon shot until it strikes its colors or sinks.

until it strikes its colors or sinks.

The battles in Uncharted Waters are strategically engaging, but if you really want to smell the silicon salt and gunpowder, you'll be disappointed. The more-animated battles of Broderbund's Ancient Art of War at Sea or MicroProse's Piratest will suit you better.

For the Admiral in All of Us

Behind every good captain is a seaworthy first mate. Pay attention when he makes a suggestion, for he always has the good of the ship, crew, and captain in mind. Heed him well and you'll go far.

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desperate, but it's usually a safer bet to head for port to restock supplies.

Once your coffers are bursting at the seams with gold doubleons and silver ingots, you'll be able to hire the finest crew and outfit the most seaworthy of ships. When your wealth and status reach a respectable level, you may also win the favor of the king, and his blessing on your marriage to his dauther.

With some spare gold, you can

invest in foreign ports. Besides earning you the red-carpet treatment every time you return, it'll also help spread the good word for Portugal. Uncharted Waters is more role play than arcade action. If you have fierce pirate blood flowing hot through your veins, you'll be better served with something like Pirates! But if you long to make your mark on history, open trade routes, and build an unsinkable reputation, you'll revel in navigating the seas of Uncharted Waters. Uncharted Waters is definitely more for aspiring admirals than swashbuckling scurvies

Koei Corporation, 1350 Bayshore Highway, Suite 540, Burlingame, CA 94010, (415) 348-0500; IBM PC or compatible; 640K RAM; CGA, EGA; supports AdLix, requires two floppy drives or one floppy drive and hard drive; supports keyboard or mouse; no copy protection; \$69.95

PC COMIX: LANCE STONE

By Wayne Kawamoto

"Who the hell wants to hear actors talk?" sputtered Harry M. Warner, president of Warner Brothers Pictures in 1927. The focus of his disgust, of course, was the advent of "talkies."

Who wants to hear comic books in 1992? Maybe everybody. Maybe nobody. If the people at PC Comix are right, they may be onto something, perhaps even a multimedia blockbuster. If they're wrong, it'll be a modern-day electronic Edsel. It could go either was.

Lance Stone, the first episode in PC Comix's new interactive series, features nice graphics images, sound effects, limited animation, and, most importantly, decent story lines and characterizations.

PC Comix is gambling that "boys aged 5 to 50" will Bock to it in droves. Comic books remain popular, and some old issues command hefty prices. But can this medium, and its excitement, carry over to the computer? Some years ago, Infocom, famous for classic text adventures such as Zork and Hichthiker's Guide to the Galaxy, pushed the same idea. The results were less than spectacular.

Many popular comic-book characters have made the move to movies, TV, even the computer — Batman, Dick Tracy, and the Rocketeer among others. PC Comic's Lance Stone may well be able to carry a refrigerator with one hand, but can he carry a plot?

Fatter than a 9-millisecond hardink drive, more powerful than a 50megabert. 486, Lance Stone is your arppical mild-mannered computer graphics artist (an alter ego for one of the authors) who lives in a gritty, futuristic city reminiscent of the Los Angeles of the movie Blade Rumor. Lance has personality. By turns, he's exnophobic, sarcastic, self-righteous, and nerty. (That last one sounds like a true computer professional.) At least the authors have a sense of humor. The Woz, a futuristic nightclub, is a nod to Apple founder Steve Wozniak. Billboards promote holographic software of tomorrow, and levitating bar stools can support a drinker too tanked to stand.

The program is both easy to install and to use. Through its HyperComix interface, you "turn" pages to proceed through the story, and track "threads" to see the plot through different viewpoints.

You start out with Lance Stone, but at certain points the program lets you follow another character to view the story through the eyes of the stereo-typical (and voluptuous) damsed in distress, or from the perspective of the bad guys. This technique gives to software a chance to further develop the characters— and show ongoing action without the use of that tired old "meanwhite, in another software's ability to thread or branch a story is interesting, and something paper comic books can't do.

Something else comic books can't do is create smooth dialogue among characters. In print, comic-book characters converse via balloons with stacked levels. In PC Comix, the balloons alternate among characters to show exactly who said what and when.

PC Comix: Lance Stone features Sound Blaster audio effects and music to enhance the story. When Lance enters the nightchib Woz, you'll hear the thumpa-thumpa disco beat. When the bad guy gets his comeuppance, you hear him scream in anguish.

Surprisingly, the sound effects are sparse. When used, they're appropriate, but often you hear only the sound of silence when you expect an effect. In one notable instance, Lance gets into a knock-down bar fight, where, in true Batman sleyt, the Thiangis and Bogs on the bad guy are flashed on screen in a blow-b-bow commentary. But the PC is strangely quiet. Where are the hits and groans? Where's the delightful crash of furniture or the smash of glass?





Mild-mannered Lance Stone stands for truth, justice, and the interactive way.

The graphics images, though, are first-rate. Characters are detailed and colorfully rendered. Interestingly, the backgrounds haven't received the same attention to detail, although this could have been a conscious effort to make the characters stand out.

Some comic frames feature limited animation — blinking lights mostly, with some still figures floating across the screen. The game's designers showed restraint with the animation, keeping the medium closer to a comic book than a cartoon. It would have been easy to try to animate everything on screen.

Short and Sweet

PC Comix: Lance Stone suffers from a certain lack of control. When you want to escape a story branch, you can go only to the beginning or end of that branch. And there's no way to skip frames you've already seen without sitting through all the dialogue and animation again. It's one aspect that's frustrating.

But its biggest drawback is that the story is too short. Even after following

all characters' viewpoints, PC Comix: Lance Stone holds only about 45 minutes of material. The story ends in an abrupt cliff-hanger, and, as you've probably guessed already, PC Comix promises future installments to continue the series.

But electronic gamers are accustomed to comprehensive virtual worlds that keep them busy for days or even months. Lance Stone may cost less than a full-blown role-playing or adventure game, but for many, it simply doesn't last long enough.

Has PC Comix hit upon a new multimedia phenomenon? The software tells a story and features nice graphics images and sound, but may not offer enough meat for the money. Do people really want to read comic books on their computers? We'll wait and see whether Lance flies. After all, have you read any good software lately?

PC Comix, Inc., 400 Williamson Way, Ashland, OR 97520, (503) 488-3727; IBM PC, Tandy, or compatible; 640K RAM; VGA; supports Sound Blaster; requires harddisk drive; no copy protection; \$20

NFL PRO League Football

ALL-AMERICAN COLLEGE FOOTBALL

By Wayne Kawamoto

Shall I compare thee to an autumn day? Thou art brutal, fierce, and merciless. Thou art a football fan.

Hey, this ain't no Shakespeare, pal. It's fall. Time to get ready for the season's weekend rituals, and keep those Monday nights open, too.

Rather than switch on the TV, try the PC instead. Your computer can capture the spirit, action, and strategy of football, if you just give it the right fodder. Two prime entrusts huddled amidst a league of games are Micro Sports' NFL Pro League Football and All-American College Football.

The emphasis is on statistics, with a side trip into coaching one of your favorite NFL or NCAA teams. Considering some 140 statistical categories, this pair of games takes everything into account, including the weather. Although the graphics and action are coarse, they fin and exciting.

Both NFL Pro League Football and All-American College Football offer two ways to play. In league mode, players - up to 27 in the NFL version or 60 in the college game coach their teams through a football season. In head-to-head mode, you call the individual plays in a game against another player (in person or via modem), or against the machine. NFL and College Football share the same game engine and identical play mechanics, but sport different teams. During league play, each manager formulates coaching strategies and submits them in game-plan form. You key plans into the computer, which uses individual strategies and player statistics to run through games and determine outcomes.



Strategy, not arcade action, makes the difference in NFL Pro League Football.

Game plans, like the real things, must be detailed. For example, you set the ratio of running versus passing plays, assign offensive players to key on, and indicate defense alignments.

A league director takes these game plans and enters the information into the program. Because coaches don't need to be present when games are played, groups of aspiring pigskin mentors can play long distance. They can live in the same city, or spread across the country. It makes it easy to squeeze in a season even when everyon'e's time is pressed.

Head-to-head mode plays differently. You call each play in a game against a friend or the computer. Both NFL Pro League Football and All-American College Football provide play cards outlining 99 offensive and 88 defensive plays. Simply call the play, and the computer determine the outcome, re-enacting it on a field. The players are shown from a top-down view and move in a manner reminiscent of hose little plastic men on shaking electric football games. Overhead graphics images are

crude compared with those of other football games, namely Mike Ditka Ultimate Football. Fortunately, this doesn't detract from a solid game. It's still exciting to call the shots and watch the outcome. Another flaw is the lack of a team and playbook editor, something almost expected now in a PC football game.

NFL Pro League Football and All-American College Football each feature an optional General Manager module to view scouting reports on league teams and to schedule seasons. You also can print game plans and additional playbook sheets for distribution to the league's coaches. The Stats Keeper maintains 200 categories of season statistics on players and teams in your leagues.

With the NFL version you can play head to head via modern with the USA Today Sports Center, and even download weekly NFL player stats. But although the programs are easy to install and play, both need more detailed manuals. Game-play instructions are adequate, but the docs gloss over several key areas.

NFL Pro Léague Football and All-American College Football are designed for the football purist — the player who wants a solid statistical football simulation without arcade action and flashy graphics.

Despite lack of a team and playbook editor, both are great games, as long as you keep the caveat above in mind. If you're into stats, and you don't need or want the latest in graphics and animation, NFL Pro League Football and All-American College Football make the play.

Micro Sports, P.O. Box 1178, Hixson, Temessee 37343, (615) 843-3040; IBM PC, Tandy, or compatible, 640K R4M; EGA, VGA; requires hard-disk drive; printer and modem optional; no copy protection; \$79.95 NFL, \$59.95 All-American

MIG-29 FULCRUM

By Bernie Yee

The former Soviet Union may be a shambles now, but it's not as if all it's ever done is buy McDonald's hamburgers and barter personal possessions in the world's biggest flea market. The country has technological expertise in verything from space flight to robotics.

And don't forget jest. The Mikoyan and Guryevich Design Bureau (a.k.a. MiG) has spent decades keeping its capitalist counterparts busy matching the capabilities of some of the world's best fighter aircraft. MiG-29 Fulcrum, arecent import from Europe, simulates one of the used-to-be U.S.S.R.'s most advanced fighter bombers.

MiG-29 is a solid, interesting flight sillulator with a sense of style and graphics most reminiscent of the domestic Chuck Yeager's Air Combat. It's easy to learn and play, so much so that you'll be off the ground and into combat faster than with most other simulations.

MiG aircraft have often exemplified a different design philosophy from their Western counterparts. Where the F-16, for example, is a fly-by-wire (computer-assisted) fighter, the MiG-29 isrit. You, as pilot, have full control over the aircraft, which means you can push the physical limits of the MiG-29 past the failure threshold. This comes in handy when a bandit is on your tail, but it also means you must



A simplified cockpit display makes MiG-29 Fulcrum quite playable.

have an intimate familiarity with the limits of the machine.

And what limits. The MiG-29 is faster than the F-16 at high altitudes and can fly at a 25-degree angle of attack without stalling. The manual teaches you how to do a tailslide, a maneuver for which the Fulcrum is famous: You put your plane's nose up 80 degrees from the horizon (almost straight up, like a rocket), stop, then let the jet slide backward. Your nose flips down and you pick up speed. Apply full power and then level out.

Like the recent Falcon 3.0 simulation from Spectrum HoloByte, MiG-29 Fulcrum sports different flight models. The most advanced requires a fast computer, but an optimum system doesn't demand a math coprocessor - unlike Falcon. Animation and graphics are fluid and smooth, although actual detailing and sound effects are only average.

But the best part of MiG-29 is its easy-to-learn mechanics. After a brush with Falcon 3.0 and its various bug patches, rookie pilots may have second thoughts about ever flying again. Fulcrum's engine is designed to be playable. Its HUD (heads-up display) and various cockpit displays are simple to read and, more importantly, simple to use during combat.

You see a target-designator line

(showing the direction of the enemy) and a target-designator box, just as in Falcon 3.0, which flashes red when you lock on missiles. Select a target by pressing the enter key, which cycles

the box around your various targets. Still, MiG-29 omits a number of important features, such as autopilot landing, ejection, and time acceleration when covering vast distances. This simplicity means MiG-29 loses some flexibility. Your weapons load, including rockets and various types of Soviet-made missiles (which perform like the AIM-9 Sidewinders that iet-simulation fans have come to depend on) and are preset for each mission. And though you do have external views, they're not nearly as extensive and complex as Falcon 3.0's. Nor is there a VCR feature

MiG-29's documentation outlines your five combat missions, but the software doesn't include a campaign builder. That's the price you pay for a game that doesn't demand 10 megabytes of disk space.

Combat missions are challenging and become harder as you progress. You'll mix it up with the Chinese and, of course, fly in a showdown between the MiG-29 and the F-16. Overall. the documentation is a bit disappointing. Its typeface is dark gray on light gray, and is so hard to read you can't help but suspect it's some form of copy protection.

MiG-29 Fulcrum puts you in a cockpit of a bird with different colors, literally, Best of all, MiG-29 reminds us that you don't have to spend years of programming time and suffer interminable delays to put out a solid flight simulator.

Then again, if Spectrum HoloByte could only make a MiG-29 part of its Electronic Battlefield series, we could all fly head-to-head modem combat against an F-16. That's as close to the real thing as anyone - even the revanchist diehards in the Russian Republic -- can sanely hope for.

Domark, 550 South Winchester Blvd., Suite 200, CA 95128, (800) 245-7744; IBM PC, Tandy, or compatible: 10MHz or faster recommended; 640K RAM; CGA, EGA, VGA, Tandy 16-color; supports AdLib: \$49.95

MATRIX CUBED

By Peter Olafson

Sometimes you can go home again. At least when you play computer games. Opening the box of a new installment of an established roleplaying series always feels a bit like returning to the old neighborhood.

That can be difficult to remember these days, when some developers change game systems the way you and I change oil, but it's one reason roleplaying games are regarded with such affection. The game needn't ever end.

SSI's celebrated Gold Box line is a good example. Its editions may have gotten bigger and better during the last four years, but the core has remained pleasantly familiar

An advantage, naturally, is that fans of the games know exactly what to expect, and can get right in step without the learning curve that accompanies a new system. This is certainly the case when you travel back to the future in Matrix Cubed, the second episode in the Buck Rogers series.

Buck, as commander of special ops, has ordered your six-person party to look after the coronation of a Sun King on Mercury. Along the way, you'll stumble across evidence of a powerful device, and head out across the solar system in search of scientists to build it. That quest leads to confrontations with those emissaries of nastiness from RAM, plus a new crew called PURGE and more than a few other nicely drawn baddies, and eventually a trip to giant Jupiter and its intriguing race of Stormriders.

Much of Matrix Cubed will feel like the old neighborhood to those who've played the first episode, Countdown to Doomsday, except that there's much more of it. Matrix is huge. The perspective remains three-dimensional for indoor movement, overhead when out of doors, and a bankrobbery camera angle for combat. VGA graphics images are crisp and attractive, and the sounds are measured and distinct. Indeed, it's

one of SSI's best-looking games yet. You can bring over your old pals from Countdown, complete with their repertoire of advanced weaponry. The skill-development system remains and continues to lend a nice sense of depth to the characters. (They still seem a bit like sets of stats, but now they're larger sets of stats.)

Familiarity Breeds Contempt

I've always loathed reviews that say "If you liked that, you'll like this too, but here it seems particularly apt. I'd be a liar if I said I didn't enjoy Matrix Cubed: there are lots of places to go. people to burn down - I mean meet and a planet to save.

And yet, although it's a pleasant enough game, it isn't a great one. One disadvantage of familiarity is that you get used to doing things that really should rub your smart suit the wrong way. There's still plenty of room here for refinement.

While experience points are doled

out for non-combat events, combat still rules in Matrix. That's moreor-less traditional for SSI's Gold Box games, and if you don't mind a heavy dose of tactical war game mixed with your role play, it'll be just fine. If you eniov unraveling clever puzzles, Matrix Cubed isn't for you

The mouse makes inventory management smooth, but there has to be a simpler way to toggle through your party's inventory than plunging in and out of each character's status screen. The copy protection requires a word from the Log Book - a collection of off-line paragraphs that enhance the game's flavor. It asks for this every time you load a saved game; even when it's restoring from within the program after you've been killed off. This puts you in a position to read these bits prematurely, and it spoils the very atmosphere they generate. There's no good reason for this - the game comes with a separate rules manual, so why not use it?



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your best personnel, then dare your opponent to get through a defense that blitzes and stunts at every opportunity. Play up to fourteen games at the same time as you coach your team to the Super Bowl AN ALL NEW

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Circle 57 on Reader Service Cord





Although it's no great shakes graphically, Matrix Cubed sports great characters

The generous ten saved-game positions are still indicated only by a single letter. It's also still a systemdriven game: Commands are always at the screen bottom; screen partitions are practically chiseled in stone. That doesn't exactly lend itself to generating ambience. Perhaps RPG designers should start at the end and work backward; that way the end would have all the panache you've worked to reach, and the beginning would be more properly mundane. I didn't finish the game (not nearly). but the end is rather routine: a vadone-good message from Buck and the appearance of the DOS prompt.

That's a rather poor reward for saving the solar system yet again. It's rather like being hustled out of a dinner party after midnight by an exhausted host. There's pleasure in familiarity, but even a good friend can overstay his welcome.

Strategie Simulations, Inc., 675 Almonor Ava., Suite 201, Surryvale, CA 94806-2901, (408) 737-6800; IBM PC, Tandy, or compatible; 640R RAM (560K RAM free minimum); EGA, VG4, Tandy 16color; supports AdLib, Sound Blaster, Roland; requires hard-disk drave; off-disk cocyb protection; 849,95

HOYLE OFFICIAL BOOK OF GAMES: VOLUME 3

By Eric Grevstad

While its predecessors shallenged you to card and solitaire games. Hoyle 3 offers a six-pack of classic board games you can play against friends or against the computer. All are reasonably pleasant pastimes, but if you want fast-paced action for you want fast-paced action for you want fast-paced action for you be should be supported by the property of the property

possible, but purgatory, to crawl through the games using the keyboard.) Pointing and dragging with the mouse is a comfortable way to move backgammon or Pachisi pieces, although Hoyle demands more precise mousework than a relatively forgiving game such as and if you click a centimeter off target you're chieded for an invalid move and must wait while your token is dragged back to its starting space.

The Hoyle 3 lineup starts with Snakes and Ladders, a toddler-aged game that depicts its two to four play ers as little kids, then adds five more games for older children and grownups. Of those, checkers, backgammon, and dominoes are tests for two players, while up to four can play Pachisi and the poker dice game called Yacht.

The games' setup screens let you specify names for human players and choose computerized opponents from 18 animated head-and-shoulders-shot characters from other Sierra games. Unless you're a hard-core Sierra gustomer, you won't know all the faces on the "good guys" and "bad guys" rosters, but at least you'll never lack for a playing partner.

Poor Sports

Heroes and heroines include Princess Rosella and King Graham from the King's Quest series, Police Quest cop Sonny Bonds, lovebirds Leisure Suit Larry and Pastionate Patit (spelled "Patity" here, a typo almost as bad as Larry's backgammon remark "Hey, you're men arent in the right place"), and the hapless Jones of Jones in the Fast Lane. The villains range from the burly Sherilif of Nottingham and Space Quest nemesis Sludge Vohaul to the witchy Bab Yaga and the tyrannical Mr. Big.

Clicking on a character's name reveals his or her rating (beginner, average, or expert) for the game you've picked. The higher-ranked players are harder to beat than the beginners, for reasons that range from their playing speed — experts

think longer between moves — to what suspiciously seems like loaded dice. During play, characters change expressions and make comments in talk balloons, although the bad guys don't cheart, they're less polite in conversation. When Mother Goose more conversation, when Mother Goose conversations, the conversation with the state of the conversation with the conversation with

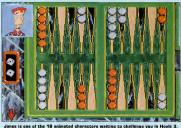
One uning had when y patens win of the per to teach when y had been been to the per to teach the when the series against them, the Sierra characters frown and winner. (Laura Bow, for instance, makes an adorable little pout when she has to take extra dominoes.) But when the game turns their way, even the nice characters gin and laugh heartily at your misfortune. Seeing Sonny Bonds chuckle and wiggle his cycbrows at me made me feel like assaulting a police officer.

Fruit or Fiber?

Except for their sometimes fusys mouse control, the games are uniformly well executed, with handsome playing boards for checkers, backgammon, and Pachisi; copious music and sound effects (sprightly with a sound card, dreary with your PS, speaker); and a few clever extras.

If you don't like the standard checkerboard, you can play in a lily pond with animated frogs that leap over each other and splash into the water. Kids can click on a spinner, then follow a star to the proper square in Snakes and Ladders, animatedly ascending the ladders and sliding down when they land on a snake. Game options, such as doubling the stakes for confident backgammon players, add finesse.

On the down side, the documentation is a little skimpy. It explains program functions, but kids who don't know how to play the board games will have to be content with reading the terse rule summaries offered on screen, not in print. The Sierra characters' repartée is limited and repettitive — after the first few minutes of



ourses in one or the 10 minimates that acters waiting to thenenge you in rioy

play, reading the same five or six snappy sayings grows tiresome.

And several of the games seem to drag on for a long time, just as the real board games can. Expert-level checkers opponents take minutes to make their moves, Pachisi plods on with minimal interest, and all but the most placid children may find Snakes and Ladders numbingly dull.

You'll enjoy Hoyle 3's backgammon and dominoes more, but they're not nearly as Iively as gems like Battle Chess or Clue Master Detective. That's understandable, because converting board games — essentially social entertainment as much as competition — to the PC is never easy, especially when you pack six in one box.

Put another way, board gamers who are looking for wholesome family entertainment will like Hoyle 3, but folks who want fruit and frosted sugar on their corn flakes should look elsewhere.

Sierra On-Line Inc., P.O. Box 485, Coarsegold, CA 93614, (300) 326-6654; IBM PC, Tandy, or compatible, 286 or faster, 640K RAM; ECA, VCA; supports AdLib, Sound Blaster, Pro Audio Spectrum, Roland, Thunderboard, hard disk, mouse recommended; no copy protection; \$49.95

CREATIVE LABS MULTIMEDIA UPGRADE KIT

By Heidi E. H. Aycock

Adding a multimedia upgrade kit to your home computer is a lot like taking knife in hand and playing cosmetic surgeon. Although your PC functions just fine the way it is, you want to give it glamour, beauty, and power.

For less than you think, you can perform some self-guided surgery to smooth the wrinkles on your familiar PC. One of the least-expensive upgrade packages comes from Creative Labs. Its Multimedia Upgrade Kit retails for \$850 and includes everything you need to play Dr. I. Liftanything, plastic surgeon extraordinaire, with your PC.

Scalpel, Please

Wash your hands, sterilize your screwdriver, and putyour PC to sleep. It's time to operate. Adding the Sound Blaster Pro sound card—one of the main components of the Upgrade Kit—is simple, but does require some strength. The card fits a 16-bit slot so precisely you must

nudge it into place with more force than you'd expect.

But doing that is trivial compared to mounting the CD-ROM drive. After you uncover a disk-drive bay inside the computer, slide the CD-ROM drive under your floppy-disk drives. Once it's in place, connect the drive to the sound card: It has a built-in CD-ROM interface.

For a few dollars, I bought an internal power-cord extender at a local electronics store. I also needed to purchase drive rails to secure the CD-ROM drive in its bay Creative's technical-support staff swore that most PCs don't need either rails or an extender, but you'll be smart to find out whether you do before you get too involved.

Although the process of installing the hardware is challenging, you should be able to finish the job in an hour or two. Pat yourself on the back and close up your PC. The surgery was successful.

Recovery and Rehabilitation

But now comes the nerve-racking question. Did the patient survive? Thanks to Creative Lab's menu-driven installation and test programs, finding out is easy. You install the sound drivers, accessory software, and CD-ROM drivers with a straightforward, one-line DOS command.

Although the tests are easy to perform, the manual doesn't tell you everything. The voice test, for instance, sounds like a babbling brook, not a babbling human being. According to a Creative Labs spokesperson, the next version of the upgrade kit will fix the problem. Difficulties are minor, but frustrating.

Besides hardware, the upgrade kit comes bundled with several CD titles, including Windows with Multimedia



Extensions, Microsoft Bookshelf, and ICOM's Sherlock Holmes.

Unwind the bandages from the patient's face and see how your hadient work looks. The CD-ROM drive runs fast enough to meet MPC (multimedia personal computer) spees, but like all CD-ROM drives, it's much slower than a hard-disk drive. And because Creative Labs chose a non-SCSI interface for the CD-ROM drive, your options are limited for upigrading to a faster drive in the future. At particular the work of the press time, the drive that came with the kit was still the only one comparable with the Sound Baster Po interface.

Creative Labs justifies the choice by claiming that it wanted the highestquality, least-expensive drive possible. True, when you do upgrade the CD-ROM drive down the line, it will probably come with its own SCSI interface, but that means another trip inside the computer's case and another slot occupied.

Tour IC's new serves sound is clear and sharp — with its two Namaha F.W. Tour IC's new serves to Namaha F.W. Tour IC's new serves a least as well as the old Sound Blaster and Adith cards. In the control of the contro

While the hardware and software work well, the Upgrade Kit's docu-

mentation is weak. Because multimedia is a new and somewhat complex technology, strange problems crop up as elements of the system coordinate and conflict. A better manual would not only explain how the kit works, but also what might happen. When I installed Windows with Multimedia Extensions, for example, some necessary files for Microsoft Word for Windows were corrupted. Although the Creative Labs folks aren't responsible for the goof, they might have anticipated the problem and documented it.

A New-and-Improved PC

For a competitive price and with some reasonable effort, Creative Labs offers the tools you need to give your PC a facelift. Just be patient — it never pays to hurry through any process when you've got your hands deep inside the computer.

As multimedia evolves, though, this operation will be less like elective surgery and more like a heart transplant, vital to the quality, or even existence, of home-computing life. Creative Labs' Multimedia Upgrade Kit is a good choice for anyone who wants to start the makeover now.

Creative Labs, 1901 McCarthy Blvd., Milipitas, CA 95035, (408) 428-6600; IBM PC or compatible; 386SX or faster; 2MB RAM; DOS 3.1 or later; VGA; requires 30MB or larger hard-disk drive, mouse; requires on 16-bit expansion slot, one 5.25-inch drive bay: \$850

WILD WHEELS

By Wes Nihei

In the future, when we're all driving electric and solar-powered cars, me'll feel great about the environment. But what's going to keep us entertained? To satisfy the world's need for burning rubber, crunching fenders, and smoking futures, the United Nations will sustain an international combat racing sport for the last of the sag suzzlers. Wild Wheels, te Steentury replacement for the NFL. Cecan's Wild Wheels exertainly distinct the same control of the same con

ocean's wineers certainly doesn't test your strategic thinking, but what it lacks in thought it more than makes up for in action. Its European roots show here and elsewhere, for it's similar in concept to sci-fi robo-rugby games such as Arena, which also comes from the LLK.

Wild Wheels is a futuristic arcadesyle hybrid of soccer and demolition derby. You control the lead car of a five-car team, guiding your group as it scores goals by pushing a steelplated orb around a banked racterack. The game is simple, but effective. At the beginning of each match the steel Power Ball shoots out of the center of the field like a jump ball in the NBA. After that, it's every vehicle for itself. You bump, push, slam, and bounce the ball into the opposing team's goal, all while keeping your adversary from doing the same.

Anything goes, so you can ram and sideswipe opposing cars. Because the edges of the field slope up, the ball never goes out of bounds; instead it always rolls back into play. You still have to figure the angles, though.

The wild in Wild Wheels refers as much to the car controls as to the game's action. These autos of the future lack brakes, so you must learn to slide around the arena when you want to change direction quickly.

Playing with the numeric keypad's cursor keys is a maniacal, finger-twisting, button-pressing exercise. Stick with the joystick, even though it's equally frenetic.



A cross between robotic rugby and demolition derby, Wild Wheels is fest paced.



two PC drivers can play directly via a serial connection or over a network.

The bright, glitzy graphics images of Wild Wheels look good and flow smoothly, and wouldn't be out of place in the mall arcade. Car designs are colorful, cartoony, stylized, and imaginatively drawn, but not detailed.

Your primary perspective is slightly above ground level, looking from your goal toward your opponent's. The display follows your car around display follows your car around is coming at you, not racing away as is usual. The Tri-Zoom feature lets you move three steps closer to the action. There's even an on-screen radar map, which projects an overhead view follows the field, but it's not much help in the heat of car combat.

Victory depends on aggressive driving and an ability to deploy your auto team across the soccer-style field. Three formation options help out. The buildyour-own option is the way to go: You can pick the cars you want in your lineup and position them anywhere on the field before the jump ball.

Your five-car team consists of a Strike are (the one you drive) and any mix of the game's other four types of motor machines: Killer, Blockers, Rethers, and Guardis. Killers seek and destroy rival service cars, Blockers run interference, Rethers run down the Power Ball and pass it toward you, and Guardis internation of the service of

The Strike cars are the key, much like the quarterback in a present-day foot-ball game. Only strikers can score points, for instance. And when either team runs out of strikers — you get three, and each can take several hits before it explodes in a brilliant burst of smoke and fire—and the game traulies scores automatically. Asyou win games, you move up in the league standings and rack up points, which you use to purchase stronger and more-lethal vehicles.

With Wild Wheels, you get just what you see — a simple and fun-to-play arcade game. For delivering what it promises, no more, no less, it deserves to take a well-earned victory lan.

Ocean of America/Electronic Arts, P.O. Box 7530, San Mateo, CA 94403, (800) 245-4525; IBM PC, Tandy, or compatible; 640K RAM; EGA, VGA, Tandy 16-color; supports AdLib, Roland, Sound Blaster; \$49.95

SIMCITY FOR WINDOWS

By Barry Brenesal

Wipe Windows clean of those solitaire decks and toss out the Tetris clones: Now you can put real games and solid simulations on a program manager near you.

One of the most aggressive Windows entertainment developers is Maxis, whose RoboSport was among it fe first out of the gate. Close on its heek, though, is a Windows version of the te company's benchmark product, SimGiry. This micro-simulation of urban development, which laungenent, which laungenent laungen la

The Little People

SimCity simulates the way humans react to a changing urban environment. The program generates terrain complete with islands, forests, rivers, and shoreline. You choose where to place man-made works such as roads, train tracks, power lines, and commercial and residential zones. Months go by, then the Sims suddenly appear and begin investing in real estate. Their taxes, which you can raise and lower like an imperial IRS, provide the income that's plowed back into future developments, such as road repairs, more shops, or an airport. You'll know what the Sims

want — they're not hesitant about saying what they don't like. And they'll move away in droves if you annoy them enough.

SimCity's shift to Windows, and the success it finds in its new home, isn't surprising. After all, almost all Maxis' games originate on the Mac (including SimCity), the machine whose operating system is the genesis for Windows.

tor Windows.
If anything, SimCity for Windows is easier to use than its DOS predicessor. Not only can you reconfigure the screen more easily, but several move dements make your task of playing SimGod all that much simpler. For instance, a new Slatus Bar provides helpful, current information on your city. Two nice improvements not available in DOS SimCity are the five bookmark is not simply which will be sold to the provides helpful, current information on, which can save and instantly retrieve five separate map locations.

Another new feature is the Control Bar, which lets you access exparts of your screens quickly, including citizen's evaluation, annual budgets, graphs, and maps. The last two really provide visual submemus — you can examine cash flow, crime, or performance on graphs, for instance, or traffic density, land value, and power on city maps. Some options (such as crime rate of some options (such as crime rate provides of the citizen graphs, for instable in either graphs of more such as crime rate or more provides of more provides of such as crime rate provides of such as crime rate or such as crime rate or such as crime rate provides such as crime rate or such as crime rate provides such as crime rate such as crime rate such as crime rate such such as crime rate such such

Graphics Sets for SimCity, there's more good news — you can use them with SimCity for Windows. These sets provide a variety of ancient and futuristic architecture, more decorative than any Windows wallpaper design.

If you've invested in Maxis' Advanced

Sims Want More!

The negatives in SimCity for Windows are fortunate) all lumped in the "Inrealized wishes" category. Music and sound effects, which come out of your PC speaker (and should be pushed right back in), are still weak, Windows want't big on sound until its recent 3.1 upgrade, and SimCity for Windows came along just a little too soon to take advantage of the new synale and drivers.

Also missing is any additional animation; only one train moved through DOS-based Simcliy, (There were more, of course, depending on how many lines you laid down, but you didn't catually see them.) Although memory constraints may have been behind the single train in the DOS version, that can't be the excuse under Windows. At least it should have been made a option you could configure.

These are minor criticisms, however if Maxis Software had done nothing more than transfer SimCity into Windows, the game still would have been a big success. But the increase in ease of use and configurability makes this simulation even more enjoyable. Add Windows' multitasking abilities, and the days of work and play are really, truly at hand.

Maxis Software, 2 Theater Square, Suite 230, Orinda CA 94563, (510) 254-9700; IBM PC, Tandy, or compatible; 640K RAM; Microsoft Windows 3.0 or later; VCA; mouse recommended; \$59.95

MIXED UP FAIRY TALES

By Cynthia E. Field

Even children can take a trip to the Pulitight Zone. Sierra's made the vehicle — Mixed Up Fairy Tales and all kids have to do is take a ride. In this enchanting game of discovery, children browse through five popupara fairy tales, helping characters find each other and retrieving magical props. The goal? Live happily ever after, of course.

Not only is Mixed Up Fairy Tales a game and a reading-enrichment tool for kids aged 7 and up, but it's also an ideal interactive "lapware" program for parents of even younger children who can't yet read on their own.

Lori Cole, designer of the popular Quest for Glory adventure, has worked wonders for kids in this, her newest



SimCity for Windows adds new tools to help you better manage urban growth

game. Mixed Up Fairy Tales charms even the computer-hesitant child.

As Mixed Up Fairy Tales begins, you find yourself browsing through the stacks at the library. Suddenly a book falls to the floor, and from its open pages emerges Bookwyrm, a stylish dragon. Bookwyrm's in a fix, though.

A trollish instigator named Bookend has rearranged five tales: Boundy and the Boast, Bromen Tom Musicians, Cinderella, Jack and the Benstall, and Snow White. If the characters in each story are to live happily ever after, you must bring them together in the Land of Fairy Tales. You must also retrieve the pieces than Bookend's story and the properties of the contractive of the properties of the when you find an object and return it to its owner can a fairy tale twoced.

As Bookwyrm's helper, kids choose the hero or heroine they want to play from a half-dozen boys or girls of varying racial backgrounds. These players are depicted in openingscreen portraits and as figures on the playing field.

Mixed Up Fairy Tales features the now-standard Sierra icon interface, although it's been appropriately redesigned for young readers. The menu bar sports Do and See buttons controlling the two dominant game activities. (You can also toggle between

Do and See icons by pressing the righthand mouse button.) Click the See icon on a tree cavity and you may discover an ovel's home; switch to the Do icon and click on the hole to watch the owl fly away. Surprise animations add to the game's entertainment value, while vocabulary flash cards and descriptive text enhance the program's educational appeal. Simple sentences such as The fenee is white characterize each Mixed Up Fairy Tales text passage.

When you come across a fairy-tale character, try to guess his or her correct tale. Pull down the Fairy Tales menu and select the title of the story. If you guess correctly, the tale begins, music plays, and a Once Upon a Time scroll appears. Whether it's Time with the properties of the properties of the item in your inventory appears in the menu bar.

Mixed Up Fairy Tales doesn't support digitized speech. Instead, characters more or less lip-synch to the printed text that shows in pop-up boxes. When you meet Snow White, for instance, she explains that she's lost and needs help finding the Seven Dwarves's house just south of town. When you click on the compass rose in the menu bar, a map unfolds. A flashing yellow you-are-here beacon helps you pick the best route.



Kids reconstruct fragmented fairy tales in Mixed Up Fairy Tales.

As you explore the beautifully illustrated Land of Fairy Tales, you'll enjoy more than just entertaining sound effects. The sound track in Mixed Up Fairy Tales features appropriate selections from the work of Study great class and Visadils Bookened is turne includes combative music from Wagner's The Magic Fairy and Wandils Bookened is turne includes combative music from Wagner's The Magic Faire, and Wandils Mozart's opera The Magic Faire, and his mournful Learninous plays and his mournful Learninous plays the program of the plays come.

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You can become more familiar with each composer and his work by playing the gramophone in Bookwyrm's living room or by referring to the program User's Guide, which provides mini-biographies. The manual also contains the complete text of each fairy tale as well as a list of some three dozen new words. The Mixed Up Fairy Tales package even includes a box of four crayons and a diminutive coloring book featuring one scene from each tale.

Reptile Role Model

Bookwyrm is more than just a makebelieve friend — he's a genuine, though digital, role model for children. He provides hints to help kids find fairy-tale characters and retrieve objects. Whenever you visit his house, he's lolling in the sunshine — with sun visor and sunglasses, of course reading a book. At game's end, he graciously promises to help the pecvish Bookend learn to read. "Read-

ing is such fun," Bookwyrm enthuses. Not only does Mixed Up Eairy Tales work for kids who already read, it's ideal for parents whose children can't vep put sounds to letters. With or without adult assistance, small hands can play Mixed Up Fairy Tales with the device that fits best: keyboard, iowstick or mouse.

Mixed Up Fairy Tales accommodates small attention spans, too, because you can save a game anytime. The program can save multiple games begun by up to 20 players, a convenient feature that makes Mixed Up Fairy Tales a good investment for early-learning centers and schools as well as families with several potential players. When they launch a new game, children enter their names by selecting up to ten letters from the colorful alphabet squares on screen. Graphics backspace and spacebar "kevs" correct mistakes and let them type surnames.

For a trip to the twilight zone of confused children's literature, nothing beats Mixed Up Fairy Tales. It's an engaging, nonviolent, challenging game that appeals to both genders.

Sierra On-Line Inc., P.O. Box 485, Coarsegold, CA 9361, (209) 633-4462, IBM PC, Tands, or compatible; 286 or faster: 640K RAM; EGA, VCA, Tandy 16-color; supports AdLib, Produdio Spectrum, Roland MT-32/LAPC-1/CM-321, Sound Blaster, Thunderboard; requires hard-dish drive; \$49.95

METROGNOMES' MUSIC

By Leslie Eiser

If you listen carefully, you'll hear the sound of iny creatures making music. No, you haven't disappeared into Darby O'Gill and the Little Phople, or fallen asleep next to Rip van Winkle after a few too many draughts. Those sounds in the distance come from your kids' PC and The Learning Company's Metrognomes' Music, a delightful collection of musical games and activities for hildren aged 4 to 7.

Sing Along in Style

Gnometown houses a sprightly group of music lovers with pointy hats and smiling faces — the Metrognomes. These adorable creatures are ready to enchant your home's youngsters with their melodic skills.

You'll start in Metrognomes' charming meadow home; it's lilled with frolicking folk, a giant mushroom house, a tuneful flower garden, a musclast stage, the Cnometown parade, and a pienic party. Search the meadow you'll find five amusing games, each an invitation to learn a little more about the fundamentals of music. Animated sequences and a sing-along motif combine to create an entertaining environment pointed right at late preschoolers and early-elementary-aged kids.

At the mushroom house, you'll join the Metrognomes' fire department for a game of Hi-Lo Rescue, You must



The tiny Metrognomes strike up the band at kids' demand.

decide whether the second of two notes is higher or lower than the first. Get it right and one of the animal inhabitants of this eight-story house jumps out. (Don't worry, there's a net waiting below.) After finishing four missions, the Metrognomes perform, picking a song from their repertory of 27 nursery and folk tunes. (By the way, the Metrognomes don't really sing - they only play the music and show you the words on screen. You provide the voice - Korake style.)

Visit the flower garden for a melodious game of Memory. Each of the tunes in the Metrognomes' song book has been divided into four distinct phrases. In Memory, each phrase is duplicated, the resulting eight phrases are scrambled, and then they're all hidden under the animated insects that sit on the flowers.

Kids locate the matching pairs by picking among the insects. At the easiest level the repetitive nature of each song simplifies the search. At higher levels, though, there are fewer repeats and youngsters need a better ear before they can match phrases accurately. Fortunately, no one ever loses. If a match is too well hidden, the gnome tending the garden is happy to point out the right answer. Each correct match floats into the clouds, and when all four phases have been paired correctly, you hear the song and see its accompanying animated titles and words.

Keep the Beat

Want to practice keeping a simple beat? Try using the log car at the far edge of the meadow to pick up the members of the Gnometown band. You'll have to strike the spacebar four times at a specified rate before the car moves, a challenging rhythmic task tough for even some adults. Fortunately, Metrognomes' Music monitors success and failure, and adjusts the difficulty accordingly. If you're consistently off, error tolerance increases, making the task easier. During the next round the computer automatically picks a target beat close to your natural rhythm.

Once you've gotten the hang of matching a beat, Metrognomes' Music toughens the task gradually by slowing down the pace and decreasing error tolerance. Your reward for finally getting the right beat? The Gnometown band cheerfully performs foot-stomping versions of Yankee Doodle Dandy, Stars and Stripes Forever, or When the Saints Come Marching In to an enthusiastic crowd.

Free play is an important part of edutainment, and Metrognomes' Music's no different. The Gnometown stage is a perfect place for young music lovers to reinforce ear-training

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skills and pick up a painless introduction to musical notation.

Five multicolored xylophones stand ready, each keyed to a different scale. There's a standard eight-tone xylophone with a major pentatonic scale, the same scale on which most American folk songs are based. Other xylophones offer Asian, jazzy, spacey, or country-&-western-sounding scales, Switching xylophones changes the preset tune and the feel of the music, but kids are free to create their own tunes in any of the scales by manipulating the individual notes. Clicking on the conductor changes the rhythm pattern without changing the note values, creating subtly different melodies. Each xylophone has its own set of animated performers eager to play your original composition on their instruments. (Choices include clarinet, flute, guitar, pipes, oboe, chimes, and blocks.)

Last but not least on this Metrogomestour is the Gometown pironic grounds. Here's your chance to hear each of the 27 songs, complete with words and animated graphics. Just pick a picture from the Gonomes' picine quilt and sing along. Youngsters will appreciate the opportunity to learn the words to the songs they to learn the words to the songs they they do recognize, or just get familiar with the tunes. Some will even be content to just relax and listen.

Metrognomes' Music provides young PC players with an arrange entertaining, and educational musical experience. Music is a universe experience, Music is a universe anausing introduction to traditional tunes. Along the way, it gives kids the chance to learn rhythm and beat chance to learn rhythm and beat pitch, and even to create their on the propositions. The beat goes on with Metrognomes' Music.

The Learning Company, 6493 Kaiser Drive, Fremont, CA, 94555, (800) 852-2255; IBM PC, Tandy, or compatible; 512R RAM (640K RAM for Tandy); DOS 2.0 or later; CGA, EGA, VCA, Tandy 16color; supports AdLib, Sound Blaster; mouse optional; no copy protection; \$49.95

MAGIC CANDLE II

By Bernie Yee

May Minderaft's other children have easier births. Magic Candle II, the long-awaited follow-up to the award-winning Magic Candle, is finally out. It carries on the legacy of the original — excellent game play and an interesting story line, with a well-written paragraph book to fill in the plot. Unfortunately, the delivery may have been premature.

Magic Candle II has fallen prey to the same late-is-great syndrome that's plagued other major role-playing game developers, such as Origin and Sir-Tech. The delays in release were attributed to including the now de rigueur VGA graphics and digitized sound.

Although Magic Candle II is a good, sometimes excellent, game, Mindcraft should have resisted its release a little longer and worked out some of the bugs. Although it's understandable when a graphics ctravaganza like Ultima Underworld or Falkon 5.0 shows a few cracks here and there, in a game like Magic Candle II, which has a decidedly rero let to it, bugs are simply inexusable.

Magic Candle's technical problems are important enough to warrant immediate attention. The latest revision of Magic Candle II (at press time) is version 1.40. A mouse patch is about to be released in the coming months as it's finalized. (That's significant because the manual devotes a good deal of space to the mouse option; there's no question it would make the game easier to play.)

game eisser to pusy. Let's hope it will correct some of the problems I encountered with version 1.30. Earlier releases have enough problems—sho are supposed to ing characters who are supposed to ground the control of the control of Gandle II is impossible to finish. The most amonying problem encountered was intermittent game crashes. Magic Candle II apparently didn't agree with my 48633, Sound Blaster Pro-equiposed machine, even when I pared down the boot process with a clean floppy disk with minimal CONFIG.SYS and AUTOEXEC.BAT files. When I chose the AdLib sound option, however, the game ran fine. Unfortunately, the Sound Blaster effects are audibly superior.

Still, the game itself continues the Magic Candle saga and shows its ancestry well. In Magic Candle II, you ty to discover what happened to the Magic Candle's 44 guardians.

The game system itself is like an early Ultima, a top-down system that displays little an unimation and detail, but is otherwise colorful and pleasingly simple. It also has the virtue of being instantly familiar to anybody who's played the ubiquitous top-down role-playing games. Each town and location looks different, and Magic Candle II sports a large tile palette from which to choose. Digitized sound effects seem a little out of place, and contributed to my technical difficulties.

Interaction is the order of the day, because much vital information is acquired by talking to non-playing characters. Your charisma determines whether certain non-playing characters talk to you; if you complete certain quests for them, they may offer some valuable information. Of course, libraries constitute a great source of arcane data, too.

You can recruit more than 30 mon-playing characters to join your party, and their faithfulness is determined by personality (some are just downight flaky) and your own loyally arting. Like its predecessor, Magic Candle II lets you send party members off to complete different tasks, such as memorizing spells or working for a gem cutter, while your hero follows up the main quests at hand. There's a lot to do, because Magic Candle II expands the game environment and provides a lugge continent to explore.

The interface is definitely a throwback to the days before the carry-all command *Use* was implemented recklessly across fantasy role-playing games. A mouse would have been nice, but arrow keys and the numeric keypad control movement and



You'll encounter old comrades who want to join your quest in Magic Candle II.

execute commands adequately. Automapping is implemented from the beginning without having to find or acquire a spell or map — a big relief. And, best of all, Magic Candle II includes a note-taking feature that records all conversations.

Magic Candle II has an expanded magic system as well. New spells complement the bigger world. Of course, the various reagents from Magic Candle are back, making your party's backpack look like the cupboards of a Chinese herbalist. And the dizzying array of items are well explained in the plain, but quite readable, documentation.

There are definite quirks, though. Resurrection, for example, is allowed only immediately after combat. Although the program tells you this, you're still stuck if you haven't memorized the spell. The lesson here is save often.

There's no question that Mindcraft has properly eschewed glitz for a solid, substantive game system that provides interesting, exceptionally balanced game play. But the effort is incomplete. A stable gaming environment is a must if you're not on the edge of EMS-twisting, digitized-voiceover, cutting-edge technology.

There's a solid game here somewhere, but its engine has a few too many rough edges. Mindcraft shouldn't be so fast to minic Microsoft's example. Not many of us will wait for version 3.0 before we're ready to play on the PC.

Minderaft Software, 2291 205th Street, Suite 201, Torrance, CA 90501, (800) 525-4933; IBM PC, Tandy, or compatible; 8MHz or faster recommended; 512K RAM; EGA, VGA, Tandy 16-color; supports AdLib, Roland, Sound Blaster; routires hard-disk drive: \$59.95

ANNABEL'S DREAM OF ANCIENT EGYPT

By Tom Cariton

Travel without the travails of punching tickets and bad food — travel, in fact, deep into the past, courtesy of your PC and CD-ROM drive.

That's the promise of Annabel's Dream of Ancient Egypt, a multimedia delicacy served up on compact disc. This bill of fare is entertaining and engaging, yet intellectually nutritional. Based on a delightful child-dren's adventure featuring Annabel the cat, this "edutainment" title lets you venture into gournet dishes fired in the desert land of the Pharaohs, spiced with the works of the Nobel laureate Rudyard Kipling, stirred with the music of Aida by Verdi, and colored by ancient Egyptian paintings from the Oriental Institute of the University of Chicago.

Let's start with the story of Annabel. Entranced by the music of Aida, she imagines herself dancing among the priestesses in the Temple of Vulcan. She dreams of a country "far across the rippling sands, just this side of the reeds and rushes that bordered the quiet blue river," of landscapes with "trees, rising tall and stately . . . broad, rattling leaves, like leathery fans spreading over clusters of tropical fruit." And the story unfolds. While you read, you listen to a pleasant voice telling it. At the same time, this animated storyboard offers rich images and triumphal music.

Annabel enters ancient lands of great limestone cats and giant tombs of kings. In a royal garden she meets a queen, Lady Bastet, a wise cat of great age. "Your unhappiness brought you here," the queen suggests. "It's my sister Bianca; she teases me all the time," responds Annabel.

The queen tells the tale of the Ethiopian princess Aida, captured by her father's enemies and made a slave. Even as a slave, says the queen, Aida kept her royal bearing and because of this was treated with respect. Being a queen starts in one's thoughts and intentions, she insists.

"Meoooow," Annabel screams as the frisky Bianca claws her tail, bringing her back to reality. Leaving this land of her heart's desire, Annabel considers running away from home. What lessons of coping with life's problems will she learn's Sincere, sensitive, and succulent, Annabel's dream is the entrée to the rest of the banquet.

A carousel of activities add gusto to Annabel's Dream of Ancient Egypt. Scrambled Letters lets you drag-anddrop letters into boxes in correct order. Containing words from the story, such as pharaoh, whishers, banister, and frightened, this alphabet soup should satisf the palate of older kids.

Further challenging your reading

comprehension, What's Happenial is Nowl' let syot recall the story and is characters. While looking at a character in a scene from the story, for instance, you're asked to remember which cats liked to play games. After you contemplate, click on the Hint button to hear this page from the story. Such an easygoing approach to reading comprehension works without intimidation.

Select the 1000-word glossary to read definitions and hear pronunciations. Anytime during the story, click on a word to activate the talking glossary — a very clever assist for learning to read.

The About Egypt geographical and historical menu presents a rich variety of maps, pictures, and narratives to explore. You'll discover the settling of the Nile, and follow a synopsis of more than 5000 years of history of powerful families from the First Dynasty to King Tut and beyond. You'll also learn about plants, animals, and magnificent monuments. More awaits in the stories of Sami of Cairo and Abo Elkar a Bedouin pastoralist of the Great Desert, who tell of Egypt's present day. And you can listen to excerpts from Verdi's opera Aida, a story told completely in song.

More to Explore

For more diverting entertainment, Annabel's Dream offers the Cat Gallery and Ancient Egypt Gallery, coloring books with an on-screen palette of 16 colors. Kids can even print the pages for Crayola, watercolor, or marker painting later.

panting later.
Children also can write and decode secret messages using the Henoglyhics pranslator, which assigns enigmatic symbols from ancient Egyptian writing for each letter of our alphabet. Although an Egyptologist friend of mine indicated this assignment was mostly fanciful, it remains a real delight regardless.

Two more-tantalizing offerings for family or group projects are Making Puper and Digging Up the Present. These are takeoffs on papyrus making and archaeology. A complete list of

materials, instructions, and illustrations guides you though a real papermaking project. This may be a little messy; you may want a pair of rubber gloves for your archeological

dig through neighborhood trash cans. If you have trouble exploring Ancient Egypt with Annabel, the software steps accompanying an Abeat This Dies item give adequate instruction on using the simple icon-based navigation system. A Note for Parenty against system. A Note for Parenty Helpers provides excellent assistance far beyond what you might expect. In Exploring Life Sixtuations, you'll find interesting materials on subjects that range from handling a child's anger to how to handle pressure. All are very professionally presented.

You'll find this land of Goshen a fertile field. As entertainment goes, it's good. As educational tools go, it gets an A. As a CD-ROM title for Windows, it rates 4 out of 4. Sit down, pull up a chair, and feast on Annabel's Dream of Ancient Egypt from Texas Caviat. Bon abbeils.

Texan Caviar, 3933 Spicewood Springs Road, Suite E-100, Austin, TX 78759, (512) 346-7887; IBM PC, Tandy, or compatible; DOS 3.1 or later; Microsoft Windows 3.0 or later; requires CD-ROM drive; \$85

AL MICHAELS Announces: Hardball III

By Cameron Crotty

This hasn't been a great year for baseball. In May, John Goodman starred in The Bole, a mediore movie about a great player. After a powerful starr, Jose Canseco's batting average slumped below. 200 for three horrible weeks. The Boston Red Sox found new and exciting ways to blow one casy win after another, and Bo Jackson hobbled toward second like a wounded bull dodging the toreador.

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But just as events were at their bleakest, Accolade stepped up to the plate and released HardBall III. featuring the famous voice of Al Michaels, Would it mark the season's turning point? Let's see.

The Windup

So what do you do when a celebrity endorses your baseball game? If he's a coach, you include gritty coaching strategies. If he's a player, you put him on the VGA field of dreams. But an announcer - what then? You have him call your own private electronic ballgame, of course.

To squeeze Al Michaels into the PC, HardBall III splices together a basic vocabulary of words, numbers, and Al-isms to cover the action on the field. As each player comes up to bat, for instance. Al announces him by number and position, then gives you his batting average and how he's done at the plate during the game. Once the ball is in play, Al follows the action. One caveat: Don't count on Al's call for your fielding choices. A ball that Al says has been "lined to second base" isn't necessarily one you can catch for an out

There are plenty of trademark clips for fans. If you paint the corner of the plate for the third strike, Al growls, "In there! That's two away." The vocabulary is varied enough to sound realistic and spontaneous, and covers nearly every possible event on the field.

How does Al sound? Digitized, The quality of the individual sound bites is good, but the sentences are unavoidably choppy. Al ends up sounding like a second-grader struggling through a difficult book. It's fun for a while. but the appeal wears off after the ninth or tenth time you've heard, "Up at bat . . . number thirty . . . five . . . the . . . center . . . fielder.

Remove Al Michaels and you're left with a program that's more game than simulator. HardBall III ships with two 26-team leagues. But instead of real players with real statistics, you get imaginary athletes. There are currently no expansion disks planned, but you can import players and teams from



ows in Hardball III show the batter and the ba

Tony LaRussa's Baseball, Earl Weaver, and earlier versions of HardBall.

Once you get by Accolade's aggravating copy-protection code wheel, you can play an exhibition game or simulate an entire season. The player and team-editing functions are easy to understand, so creating your own isn't much of a hassle. You can select a picture for each player from a file of more than 30, alter your team's cap and jersey color with a key click, and, if you're so inspired, edit the team emblem in 256 colors

Once you've chosen two teams to do battle or you've "bought" a team to follow through a season, you head for the field. The action part of Hardball III starts out by compressing almost the entire ballpark into one screen, which makes for some interesting problems with relative player size and perspective. Pitch- and swing-selection controls are logical. Fielding-strategy controls are finally easily accessible from the pitcher's selection box. HardBall III also lets the hitter choose where he wants to swing as the pitch is coming. You won't be able to turn a .223 hitter into a power-alley monster. but you can make a difference.

Fielding is a nightmare. The pro-

gram lets you cycle easily among active players, but at the cost of controlling whether your player dives or jumps after the ball when you use a joystick. The size and perspective mismatch between players and the field, and some slightly jerky animation, make fielding a guessing game, especially once the ball leaves the infield.

Finding landmarks is another problem. The computer may know where all the bases are, but you'll end up dancing around as you try to spot the base to make a putout. And if you're not personally controlling a specific player, his behavior can be frustratingly erratic. Heave a ball to the catcher for a play at the plate and all too often he leaves home plate open, letting the runner score.

Through all of these difficulties, the game still looks good. MindSpan, the design and development brains behind Hardball III, has done sensible work on the pitcher/hitter/coach interface, making it one of the best in the business. Other neat visual touches include a camera screen that shows close plays at the bases, just like on TV.

All in all, it's not a bad package, but more time should have been spent on the mechanics of the game rather than on its window dressing.

Post-Game Show

Celebrity endorsements of sports software are all the rage, but most publishers choose a player or coach to hype their wares, under the theory that a game endorsed by a real majorleague star will be more life-like.

It's fitting then, that Accolade chose Al Michaels to back HardBall III. Al Michaels is one of the most recognizable figures in sports, but as a face and a voice, not as an active participant. That's a bit like what you'll feel when you play — if nothing's happening on the field, at least Hard-Ball III looks and sounds pretty good.

"Just like on television" is a good way to describe Hardball III. This is baseball from the announcer's box, the fan's seat: It looks good, sounds good, too. Unfortunately, once you bite into this ballpark hot dog, you'll find more filler than frank.

Accolad, 550 South Winchester Bouleward, Suite 200, San Joe, Cel 95128, (408) 985-1700; IBM PC, Tandy, or compatible; 10MHz or Jaster recommended, 450K RAM, digitized play-byplay commentary requires 2MB, ECA, VCA, MCCA: supports Adib, Roland MT-321/APC-1, Soundibaster, requires hard-disk drive; joystick and mouse optional, off-disk copy pratection, \$59,95



By Dan Muse

Baseball may be the national pastime, but football is the national obsession. If you're a pigsdin junkle, when the pastime is the pastime of the pastime of



NFL is fun and action-packed, but it doesn't sweat the details.

jump up and do the wave - or just jump up and shut off the computer? It's no secret that some sports translate from the playing field to the computer screen better than others. Football is one of the more challenging. It's the ultimate team game. The expression "you're only as strong as your weakest link" is never more true than in football. For a successful pass play, for example, you need good blocking, a good decision by the quarterback, an accurate pass, a shape pass pattern by the receiver, and a successful catch by the receiver. And, of course, a clever defensive scheme can ruin an otherwise well-executed offensive play. Because of these intricacies, simulating a football game is difficult.

Now Distinctive Software, the company that developed NFL for Konami, takes a good run at simulating what's perhaps the most American of all sports. And overall, NFL is fun and fast action. If the game were as acrual football team, however, you'd categorize it as exciting to watch, but incapable of winning the big one — the Super Bowl — because it doesn't sweat the details.

Konami has licensed the use of the NFL and team logos, which make the game fun. You can pick your favorite team and watch its colors moving up and down the gridiron. (By the way, NFL's graphics images are stunning.)

The use of the NFL insignia and team helmes may imply something that the game int't, though, While you get to choose a real team—the 49ers, for example — the players are fictitious. Securing all the required licenses to use not only the NFL and team logos, but the players' names and stats, as well, would have been a logistical and financial nightmare—requiring an additional license with the NFL players' association and, in some cases, even the players' agents. Let's face it:

Like it or not, sports is big business. That doesn't detract from game play, however, And you can edit the names and attributes of your fictitious players to make them reflect real-life players if you like. And NFL is fun to play even without the big names especially if you use those of your friends. It's fun to see your name on screen during NFL's post-play commentary. If you'd prefer to skip it, just turn it off from the Game Options screen. You can also indicate whether you want to Coach Only, as well as choose Automatic Subs, Penalties, Fatigue, Injuries, and other details of the game. You can pick from three quar-

the game. You can pick from three quarter lengths, too: five, ten, or 15 minutes. The goal in NFL is to reach — and, of course, win — the Super Bood, Select your team from a list of all the NFL franchises; modify it as you'd like. You can even create your own offensive and defensive plays fairly easily by editing the playbook. You re limited, however, to eight new offensive plays and four new defensive plays; foeeball afficiendes will want more.

Unfortunately, the manual doesn't do a good job of describing how to best use the playbook's features. It's intuitive enough to let you build a play, but it could go a lot further in helping you plan a strategy. In fact, that's a consistent problem throughout the package: There's place; There's place; There's he will game here, but it's not particularly well documents.

For example, let's say you love football, but you haven't mastered every nuance. The first time you go on defense you have to select among schemes such as 30 Mish Cover 2, 30 Over Flop Cover 3, and 30 Over Stack Mish Mash. If you study the diagram you can pretty much figure out what's going on, but it's definitely not fithe faint of heart. Nowhere does the manual or on-line help system suggest what your basic run defense should be, for instance. At the very least, the program should let you default to a recommended defense and then let you go from there.

On the plus side, the off-disk copy protection is fairly painless, by today's code-wheel and count-the-lines-andwords standard.

words standard.
Passing and kicking historically the
two most difficult aspects of football
simulation, are challenging but
conquerable. NFLS passing takes a
while to get used to. Basically, you try
to hit your primary receiver — identified by a triangle. If he's covered
you can move on to the secondary
receivers. The kicking/putming interface is reminiscent of some golf
games: A bar appears on screen and
you hit the key or josystic button to
indicate power and release it for

direction. Again, it's different, but not a difficult technique to master.

Almost a Champ

NFL does have a few things that will bug true football fans: For one, the dock starts when the ball is kicked rather than when it's touched. And when your opponent commits a penalty, you must accept or decline it before you know the result of preceding play.

NFL is fun to play and fantastic to look at. It's probably worth the investment if you're a football fan, but I can't help but think that with a little more work it could have been a champion.

Konami, 900 Deerfield Purkucy, Buffalo Grave, II. 60089-4510, (708) 215-5111; IBM PC, Tandy, or compatible; 640K RAM; DOS 2.1 or later; 12MH; or fuster recommended; EGA, MCGA, VGA; supports Roland, AdLib, Sound Blaster; hard-disk drive recommended, josystick optional: off-disk opt protection; \$49.95

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DESIGNERS' NOTES

NEW PERSPECTIVES

Sports games need to take a cue from flight simulators, and get players off the ground.

By Mike Suarea

In the not-so-distant past, computer sports games weren't so much limited by the machine's performance as by traditional preconceptions of how sports should be viewed. Game designers consistently based their presentations on the spectator's perspective, and, as a result, the computer gamer always felt as though he or she were playing a remote-control toy from the upper decks of the stadium. These 2D play fields were flat, and crowded with cartoonish characters. The gamer never felt involved

With the introduction of TV-like presentations and close-up field perspectives, graphics and entertainment value climbed. But these features didn't improve our ability to experience the action. Basketball in particular hit a vall. What were games missing? Certainly not hot names: Everyone from Magie to Malone was slapped on a box and kicked out the door.

The idea behind Jordan In-Flight (distributed by Electronic Arts) began with



Jordan soars on screen, too, thanks to 3D flight-sim technolog

what game producers have traditionally used for inspiration: a healthy dose of frustration and a leap in technology.

Unlike football, baskerball is incompatible with overhead perspective. In a flight for real estate you have to have a clear view of the bartlefield — but baskerball isn't a set-picce battle for turf. It's less structured, more fluid, more 3D, the visual perspectives required to create a sense of participation are complex.

What all basketball games were missing — what only a leap of technology could provide — was air, literally and figuratively. What PC hoops needed

was digital video animation that looked like TV, plus top-notch 3D flight-simulation technology so that the gamer could watch his or her players get off the ground.

We made two smart moves. First, we hired a first-rate professional video crew. Nocturnal Aviation of San Francisco, with their proven track record in film and TV production. Second, we secured the services of a software engineering firm. ZCT Systems Group of Tulsa, Oklahoma, a veteran of government and civilian flight-simulator projects. Greg Zumwalt and his crew devised an extraordinary system for scaling and animating Jordan's video images to eliminate the usual speed and perspective problems.

Even though I think In-Flight propels computer sports toward the future, sports games still have a long way to go. I only hope that tomorrow's entertainment developers avoid confusing technology with content. That kind of thinking perpetuates the creation of

dry sports "simulations." The technology is only the form through which we bring the content of our sports games to life.

And what will the content be? Tomorrow's computer sports players will get significantly more-engrossing experiences — assuming the roles of players, coaches, and owners on and off the simulated coart. CD multimedia interfaces will re-create the drama and emotion of playing in the pros.

In the long term we'll get the ultimate: You'll videotape your own and your friends' moves, slap them on a CD, download them to the Sports Fantasy Channel (256 on your dial), and watch yourself and your buddies get creamed by the Chicago Bulls on interactive HDTV.

Better yet, head on over to the local virtual-reality park and take on the video representations of the Bulls in person. Just remember that Michael likes to cut in the direction of your leading foot. \square

Mike Starve is president of haife Commonks, a San Francoso-based independent designer and producer of multimedia for Montana Toolball (IBM), Face-Off Hockey (IBM), Tongue of the Fatman (IBM), and Monda's Fight Palace (Sega Ceness), Pacific Comwworks is currently designing a new line of CD-ROM sports and adventure traducts.



ZEN MOMENTS

By Cynthia E. Field

Face it - even PC gamers who get their kicks blowing away computer characters and pulverizing enemy targets need a break from the frenzy. And a perfect change of pace - whether a brief respite from a sweaty-palm war game, the workaday world, or life's concerns - is Heaven & Earth, a relaxing diversion that provides just the stressreducing counterpoint you need. I wrote this preview just before April 15th, so I know what I'm talking about.

Published under the new Buena Vista Software label by children's favorite Walt Disney Computer Software, Heaven & Earth is the first in a series of games for older players. Heaven & Earth was inspired by the legend of Shambhala, an ancient utopia immortalized in Tibetan Buddhist mythology, and comes from the

creator of such classics as Shanghai and Ishido. The program's on-line

user's guide explains that the universe of computer entertainment is populated by games, toys, and puzzles. Not surprisingly, then, Heaven & Earth's three Zen-like activities include something for everyone.

The rummy-like Heaven & Earth Card Game is inspired by hanafuda, a traditional Japanese flowercard game. Unlike a standard card deck, the 48-card Heaven & Earth deck is made up of 12 four-card suits, representing the months of the year. Cards sport beautifully painted landscapes symbolizing ocean, desert, mountain, and sky. Decorative borders represent the four seasons and the four elements: earth, air, fire, and water. Climatic or celestial phenomena, such as snow, rainbow, full moon, and aurora borealis, appear randomly within landscapes.

The idea is to match

score points. Whenever you match two cards of a given month you've turned a relatively low-scoring two-of-a-kind trick. More-challenging tricks include four of a kind and opposite month (April and October, for instance). Celestial-

phenomena cards work like

wild cards by multiplying

the value of a trick.

Besides serving as dealer and score keeper, The Heaven & Earth Card Game is an entertainer, too, thanks to colorful animation and realistic sound effects — thunder and lightning, shooting stars, eclipses, chirping birds, chimes, and musical clips.

Perhaps the most daunting Heaven & Earth activity is *The Pendulum*, which the game challenges you to control so that it lands on positive energy vortices while avoiding negative ones. (Sounds awfully New Age, doesn't it?)

The Pendulum features six different scenarios (layouts) in each of the program's four increasingly difficult challenge levels: Ocean, Desert, Mountain, and Sky. Vortices, which at the simplest level look like iridescent pearls, feature color-cycling animation and sound effects.

The Illusions include 12 different types of optical brain teasers — including figure/ground puzzles, mazes, and more — with a dozen variations at each difficulty level.

The Pilgrimage, the ultimate Heaven & Earth experience, intersperses a random series of game, toy, and puzzle activities with inspirational messages. After you complete your pilgrimage, the tiles you collect along the way paint a full-color version of a meditative scene depicting Shambhala.

Ever played a game and found yourself thinking, "Just one more try and I'll get back to work?" Heaven & Earth — whose title signifies creative tension — offers a playful, but intellectual, environment to clear the mind and enhance productivity. Too bad a memory-resident version's not in the works.

Buena Vista Software, 500 South Buena Vista Street, Burbank, CA 91521, (818) 567-5340; IBM PC, Tandy, or compatible; 640K RAM; DOS 3.0 or later; EGA, VGA, MCGA, Tandy 16-color; supports SoundBlaster, Sound Source; requires hard-disk drive; muses recommended: 549 349.



Left, cards depict natural phenomena. Rig



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Left, cards depict natural phenomena. Right, Pendulum seeks out pearl-like energy vertices.

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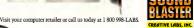
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